

Clinical depression is the most common psychiatric condition seen in the general population: 20% of women and 10% of men are affected.

Amongst people with chronic illness, this percentage is somewhat higher. Whilst some medical studies suggest a figure of 15%, others rate it much higher at up to 60%.

Arolt and Rothermundt ( [\[1\]](#) ) suggested,

"Up to 40% of medically ill patients suffer from clinically relevant depressive disorders, of which almost half can be classified as major depression. Some modern medical treatment procedures seem to increase the risk of depression."

They also remarked,

"High depressive co-morbidity and burden of illness for both the individual and the society form a stark contrast to the obviously still insufficient diagnostic and therapeutic strategies in daily medical routine."

Simon et al. ( [\[2\]](#) ), in a large international study, found that

"A somatic presentation was more common at centers where patients lacked an ongoing relationship with a primary care physician than at centers where most patients had a personal physician."

They also reported that

“Half the depressed patients reported multiple unexplained somatic symptoms, and 11 percent denied psychological symptoms of depression on direct questioning.”

They concluded,

“Somatic symptoms of depression are common in many countries, but their frequency varies depending on how somatization is defined. There is substantial variation in how frequently patients with depression present with strictly somatic symptoms. In part, this variation may reflect characteristics of physicians and health care systems, as well as cultural differences among patients.”

A study of 40 Chinese American patients ( [3](#) ) found that 22 who were depressed (76%) complained of somatic symptoms; 4 (14%) reported psychological symptoms including irritability, rumination, and poor memory.

No patients reported depressed mood spontaneously, although 93% endorsed depressed mood when they filled out the CBDI. 72% did not know the name of their illness nor indeed consider it a diagnosable medical illness, and 17% attributed their symptoms to pre-existing medical problems.

Only three patients (10%) labelled their illness as psychiatric. Help was sought by patients from general hospital (69%), lay help (62%), and alternative treatment (55%) but rarely from mental health professionals (3.5%) for their depressive symptoms.

The authors concluded:

“The results suggest that many Chinese Americans do not consider depressed mood a symptom to report to their physicians, and many are unfamiliar with depression as a treatable

psychiatric disorder."

Depression with somatic symptoms affects all age groups. Puskar et al. ( [\[4\]](#) ) noted,

"Undiagnosed and untreated anxiety in adolescents is often associated with greater rates of mood and behavior problems, somatic complaints, and risk for future psychiatric disorders."

They conducted a community survey of 466 rural adolescents.

Anxiety symptoms were strongly correlated with both physical complaints and depression.

Von Knorring et al. ( [\[5\]](#) ) using data on adolescents from Sweden's Depression Screening Day, found that 34.6% fulfilled the criteria for a major depression according to DSM-IV criteria and 40.4% of the girls and 9.5% of the boys had an ongoing depression.

The authors reported,

"All depressive symptoms, except increased appetite, were significantly more common in the depressed as compared to the non-depressed adolescents. The most common symptoms were fatigue, decreased interest and concentration difficulties."

Comparison with adults with major depression showed similar profiles, although sleep disturbances and decreased initiative were less frequent among the adolescents while decreased appetite was more common. Whilst depressive symptoms were often mild, 44.7% patients were regarded as being in need of medical treatment.

Salar et al. ( [\[6\]](#) ), explored the relative contribution of potential psychological predictors of

somatic symptoms in outpatients with major depressive disorder, including; 1) severity of depression; 2) general anxiety; 3) hypochondriacal worry; 4) somatosensory amplification; and, 5) alexithymia by sampling 100 consecutive outpatients with DSM-IV diagnoses of major depressive disorder attending the psychiatry clinics of general hospitals in Turkey.

The subjects were rated by clinicians on depressive symptomatology (Hamilton Depression Rating Scale), and anxiety (Hamilton Anxiety Scale), and completed self-report measures of Hypochondriacal worry (7-item version of the Whiteley Index), the Somatosensory Amplification Scale, and the Toronto Alexithymia Scale.

The authors reported that

“somatic symptoms in depression are related to concomitant anxiety, tendency to amplify somatic distress, and difficulty identifying and communicating emotional distress.”

Pearson et al. ( [7](#) ) looked at depression in patients who were

“high utilizers of medical care.”

They used the Structured Interview as defined in DSM-IV in over 7,000 patients of whom 20% screened positive for current major depression or major depression in partial remission.

The prevalence of well-defined medical conditions was the same in patients with and patients without evidence of depression (41.5%).

The authors noted that high-utilizing patients who had not made a visit for a nonspecific complaint during the previous 2 years were at significantly lower risk of depression (13.1% vs 22.4%) and that Patients with current depression or depression in partial remission had significantly higher numbers of annual office visits and hospital days than patients without depression.

They suggested that

“Although there was evidence that mental health problems had previously been recognized in many of the patients, a large percentage of high utilizers still suffered from active depression that either went unrecognized or was not being treated successfully.”

Wright and her colleagues looked at biopsychosocial differences between patients who were high and low risk of developing chronic jaw pain after an acute episode ( [\[8\]](#) ).

They found that the high risk group had higher levels of self-reported pain and that they were 11 times more likely to have a DSM-IV, Axis I clinical diagnosis, and more than three times as likely to have a DSM-IV Axis II personality disorder.

The authors concluded,

“Future research, in conjunction with the above findings, may enable the authors to determine, with greater certainty, if patients who are more anxious are at greater risk of developing chronic pain. If so, this provides further evidence of the need for early detection of patients at risk of developing chronic pain and the need to refer them for adjunctive care, such as cognitive-behavioral intervention.”

Arolt and Rothermundt ( [\[9\]](#) ) suggested,

“Up to 40% of medically ill patients suffer from clinically relevant depressive disorders, of which almost half can be classified as major depression.”

Further, they remarked,

"High depressive co-morbidity and burden of illness for both the individual and the society form a stark contrast to the obviously still insufficient diagnostic and therapeutic strategies in daily medical routine,"

although they did note,

"However, treating depressive disorders does not seem to exert a direct influence on the somatic prognosis."

However, Simon et al. ( [\[10\]](#) ), reporting the results of two studies of intensive depression treatment in primary care, (in which patients initiating antidepressant treatment were randomly assigned to either usual care or to a collaborative management programme including patient education, on-site mental health treatment, adjustment of antidepressant medication, behavioural activation and monitoring of medication adherence),

stated that

"More effective acute-phase depression treatment reduced somatic distress and improved self-rated overall health."

Komarahadi et al., in a cross-sectional multi-center study with 494 chronic pain patients, ( [\[11\]](#) ) looked at the extent of self-reported pain and psychological distress in chronic pain patients and the influence of social desirability on the data.

They found that

"Chronic pain patients reported stronger and more frequent pain, as well as higher psychological distress than the general population of Germany."

As might be expected, depressed or anxious patients stated pain intensities higher than non-depressed, non-anxious patients. There were positive correlations for social desirability with self-reported pain and the use of therapy, as well as age whilst a negative correlation was found between anxiety and social desirability, and for depression this interaction was less clear, and required consideration of analysis with control of pain and therapy variables.

The authors concluded,

“Both psychological distress and social desirability are common in chronic pain patients. Patients with high scores for social desirability reveal less depression and anxiety. The psychological distress caused by pain seems to be expressed by somatic complaints and therapy seeking. Since pain research is strongly dependent on the patient's self-report, social desirability should be considered as a factor which may impact measurements and decisions.”

The French DIALOGUE study ( [\[12\]](#) ), results of which were published in 2003, investigated depression and organic co-morbidities. 2 082 patients followed up in primary care by their GP for a chronic somatic pathology were designated as the GPS group, 41% of whom presented with an associated major depressive illness and, among the depressed patients of the three other groups (primary care, private or hospital psychiatry), respectively 47, 55 and 63% presented with an associated chronic organic pathology.

Depressive illnesses (MDE) were of greater than 6 months' duration and were severe.

Only 20% of the depressed patients in the GPS group had a treatment in progress, while in 74% of these same cases the onset of MDE was retrospectively dated more than 2 months before the day of the inclusion in the study.

The more severe associated organic pathologies such as cancer, HIV, neurological diseases, renal insufficiency, arthritis, insulin-dependent diabetes and coronary heart disease, whose functional impact was judged as more severe, were more often considered as responsible for the concomitant MDE and more often followed up in psychiatric settings than the other pathologies.

Among the overlap signs between the ACOP and the MDE, fatigue predominated.

The author, Consoli, remarked,

“In spite of the diagnostic difficulties related to the comorbidity and recognized by all the physicians, GPs seldom asked for the opinion of a psychiatrist (5%)”

and noted that GPs paid less attention than psychiatrists to the cognitive and affective signs of the depression (low self-esteem, anhedonia).

Consoli concluded,

“The unrecognized frequency in the association between depression and organic pathologies pleads for closer cooperation between GPs and psychiatrists, as for continuous training not only of the GPs, but also the psychiatrists, in order to limit the observational biases and the therapeutic hesitations induced by these comorbidities.”

Patients who have chronic pain and depression have been shown to have a higher rate of previous depressive episodes. ( [\[13\]](#) )

In addition, incidence of depression in families of patients with chronic pain is higher than in other groups. ( [\[14\]](#) ) Atkinson et al. ( [\[15\]](#) ) conducted a controlled study in men with chronic low back pain (100 consecutive admissions to Veterans Affairs Medical Center Low Back Pain Clinic).

Lifetime and current rates of depression, anxiety and alcohol abuse were assessed. Lifetime and 6-month rates of major depression were 32% and 22% respectively compared with 16% and 6% for controls. After onset of pain, patients had a relative risk of 9.0 for developing major depression.



Dworkin et al. ( [\[16\]](#) ), in a study of over 1000 patients, found a rate of depression of 1% in those with one or less pain complaints compared with 12% in those with three or more such complaints.

About 30% of patients with persistent pain conditions suffer from clinical depression related to their pain, and inevitably, almost all patients will experience some mood changes. 75% of patients with clinical depression present to their doctors with physical symptoms, including pain.( [\[17\]](#) )

Sullivan et al. ( [\[18\]](#) ) suggested that the prevalence of major depression in patients with chronic low back pain is 3-4 times greater than in the general population.

Reich et al. ( [\[19\]](#) ) reported that 98% of chronic pain patients reviewed by a University Pain Board had an Axis I disorder whilst 37% had an Axis II disorder.

Von Korff et al., in a large study ( [\[20\]](#) ), found that people with moderate to severe depression at baseline were more likely to have developed headache and chest pain 3 years later.

Recently, Bair et al. ( [\[21\]](#) ) reported

“Pain is present in two thirds of depressed primary care patients begun on antidepressant therapy, and the severity of pain is a strong predictor of poor depression and health-related quality of life outcomes at 3 months.”

Severity of pain was mild in 25% of patients, moderate in 30%, and severe in 14%.

Patients with chronic pain, when compared to those with almost all other medical conditions, undoubtedly suffer dramatic reductions in physical, psychological, and social well being, and their overall quality of life is low. ( [\[22\]](#) )

Wells et al. ( [\[23\]](#) ) compared the level of pain experienced by patients with depression and those with a variety of chronic conditions ranging from cardiovascular disease to back pain.

They found that depressed patients experienced significantly higher levels of physical pain than those suffering from hypertension, diabetes, advanced coronary artery disease, angina or lung problems, although significantly less than arthritis sufferers.

Geisser et al. ( [\[24\]](#) ) looked at 211 consecutive patients with chronic pain.

They found

“Self-report of depressive symptoms was more highly related to a measure of the evaluative component of pain and uniquely related to self-reported disability and negative thoughts about pain.”

Ohayon and Schatzberg ( [\[25\]](#) ) assessed the prevalence of chronic painful physical conditions (CPPCs) and their relationship with major depressive disorder in a large cross-sectional survey in 5 European countries (UK, Germany, Italy, Portugal and Spain).

They assessed various depressive symptoms including affective (sadness, hopelessness, anhedonia, worthlessness, guilt), changes in appetite or weight, sleep disturbance and fatigue, agitation/retardation, cognitive problems and suicidal ideation.

Major depressive disorder was diagnosed in 4% of subjects.

Women had a higher prevalence than men (4.9% vs. 3.1%). 43.4% of subjects with major depressive disorder reported at least one CPPC, which was 4 times more often than in the remaining sample.

Conversely, the prevalence of major depressive disorder was 10.2% in subjects with CPPC compared with 2.7% in subjects without CPPC.

“24-hour presence of pain made an independent contribution to major depressive disorder diagnosis”.

At least 1 of the 3 key symptoms of depression (sadness/ depression, hopelessness, loss of interest/ lack of pleasure) was reported by 16.5% of subjects. More than a quarter of this group of subjects also had at least one chronic painful physical condition.

Limb pain was reported by 10.5% in this group compared with 4.9% of subjects without depressive symptoms and backaches were 2 times more prevalent in subjects with depressive symptoms than in those without.

The authors of the study noted,

“The association between chronic painful physical conditions and depressive symptoms increased with the number of depressive symptoms reported.”

28.5% who reported 2 depressive symptoms also had a CPPC, whereas 37.9% of those with 5 depressive symptoms had CPPC, and 61.9% who had 8 or more depressive symptoms also had physical illness. Subjects with at least one key depressive symptom and a CPPC reported a longer duration of depressive mood (19 months) compared with those with depression without CPPC (13.3 months).

The study did not assess characteristics or location of pain and did not therefore distinguish between different clinical forms of pain.

The authors concluded that

"The presence of CPPCs increases the duration of depressive mood."

They recommended that patients consulting for pain conditions should be "systematically evaluated for depression."

Specific conditions such as thyroid disorders may be associated with certain psychiatric symptoms.

Demet et al. discussed this ( [\[26\]](#) ), stating,

"Hyperthyroidism and depression-anxiety have overlapping features that can cause misdiagnosis during acute phase."

In particular, psychomotor agitation, weight loss and insomnia were found as the discriminating symptoms for the hyperthyroidism group, whereas somatic anxiety and loss of interest were distinguishing symptoms of the euthyroidism group.

The authors noted,

"In addition to specific symptoms of hyperthyroidism, psychomotor retardation, guilt, muscle pain, energy loss, and fatigue seem to appear more frequently in patients with comorbid depression and hyperthyroidism; thus, presence of these symptoms should be a warning sign to nonpsychiatric professionals for the need for psychiatric consultation."

However, not every person with chronic illness suffers from depression, and those that do may experience episodes rather than being constantly depressed.

Furthermore, the diagnostic criteria for major depressive disorder in patients with chronic pain

may be difficult to define.

Wilson et al. ( [\[27\]](#) ) looked at this issue, assessing different methods ranging from the inclusion of all symptoms, regardless of their presumed cause, to substitutive approach (replacing somatic symptoms with non-somatic alternatives).

They concluded that excluding criterion symptoms that patients attribute to pain may reduce the reported prevalence of major depressive disorder by about 45%.

They noted, however,

“this method introduces a problem of false-negative diagnoses that appears to be more significant than the problem of false positive associated with the inappropriate inclusion of somatic symptoms.”

Chibnall and Tait ( [\[28\]](#) ) investigated the validity of the use of the Beck Depression Inventory short form when screening for depression in chronic pain patients.

They compared the Beck Inventory with the McGill Pain Questionnaire, the Pain Disability Index, pain drawing and Quality of Life Scale, finding that items on the BDI regarding functional impairment were endorsed to a greater degree than affective or cognitive items.

The authors suggested,

“endorsement of the work inhibition and fatigue items by chronic pain patients may not be indicative of affective disturbance.”

Moran ( [\[29\]](#) ) noted, based on a US national cross-sectional study by Bao et al. ( [\[30\]](#) ), that

depressed patients with comorbid pain

"use more general medical services than those who are depressed without pain- but they use mental health specialty services less."

Bao reported that these patients were 20% less likely to see a mental health specialist.

Indeed, the authors suggested that the study confirmed earlier findings ( [\[31\]](#) ; [\[32\]](#) ) that

"only about a third of depressed persons receive care consistent with current recommendations."

They were also more likely to report a greater use of complementary or alternative medicines.

Moran also commented that this group of patients tends to be older, have lower incomes and report greater levels of psychiatric distress than patients who are depressed but without pain.

Moran reported Bao's comment,

"Depression may be exacerbated because of comorbid pains...at the same time, comorbid pain itself may be a manifestation of psychiatric distress."

Bao's study looked at 938 respondents who reported both depression and at least one of 4 chronic pain categories.

The authors concluded that

"characteristics of depressed persons differed significantly according to whether these individuals reported one of the chronic pain conditions."

They noted:

"some people may assign pain symptoms higher levels of medical priority, especially given the stigma associated with obtaining mental health specialty care. In the presence of pain, patients perceive more reasons not to seek help from mental health specialists, especially if they interpret their emotional symptoms as the consequence of physical illness."

The authors concluded:

"persons who have both depression and pain should on balance receive more -not less, as we have found to be the case- mental health specialty care than that received by depressed persons who do not have pain."

Studies have found that 50% of patients who experience major depression are not diagnosed by their primary care physicians.( [\[33\]](#) ; [\[34\]](#) )

Thus, cases of depression may not be recognised and appropriately treated.

Conversely, some patients with chronic pain are diagnosed erroneously with psychiatric disorders and the physical problems they experience construed within this context, with the result again that inappropriate management may ensue.

Burns et al. ( [\[35\]](#) ) and Holzberg et al. ( [\[36\]](#) ) found that comorbid psychiatric disorders were associated with poorer treatment outcomes and higher levels of disability.

Workman et al. ( [\[37\]](#) ) conducted a prospective study of 40 patients with chronic pain referred to a 'standard' pain management programme. 70% were found to have a DIS psychiatric disorder, and the presence of a diagnosis of either Axis I or II disorder\* was associated with 'significantly lower improvement rates.'

McWilliams et al. ( [\[38\]](#) ) utilized the National Comorbidity Study from 1994 to investigate the association between chronic pain conditions and common mood and anxiety disorders.

They found that

'The presence of one psychiatric disorder was not significantly associated with pain-related disability, but the presence of multiple psychiatric disorders was significantly associated with increased disability.'

Holzberg et al. ( [\[39\]](#) ) looked at the impact of somatic and cognitive symptoms of depression on the functioning of patients with chronic pain. They found there was a significant impact, even after controlling for the effects of pain level, trait anxiety and trait anger. They suggested that depression, unlike self-reported pain level, is directly related to physical and psychosocial functioning.

Gallagher ( [\[40\]](#) ) remarked that

'Depression carries a high potential for relapse and chronicity.'

He also noted that

'Physicians must be aware of the impact of the stigma of pain and depression.'



Greenberg et al. ( [\[41\]](#) ) recently studied the economic burden of depression with painful symptoms.

They noted that the burden associated with depression is "substantial" because the condition is highly prevalent and can be associated with both psychiatric and physical symptoms "that often inflict pain."

They noted that patients may not perceive their need for treatment, may deny it or may believe that treatment would be ineffective.

Furthermore, they suggested that primary care physicians are more likely to diagnose and treat physical symptoms such as pain and insomnia, than to address underlying depression.

The authors concluded,

"On purely economic grounds, more aggressive outreach may be warranted for patients with depression and comorbid pain to initiate treatment before symptoms are allowed to persist."

Katzelnick et al. ( [\[42\]](#) ) reported that effective outreach to those who suffer from depression potentially yields not only significant benefit to the patient in terms of quality of life, but also, as a result of reduced inefficient direct medical expenditure, may help to reduce the economic burden to the healthcare system.

Sheehan ( [\[43\]](#) ) compared the per capita annual medical costs of patients with or without depression, who also suffered from one of a variety of medical conditions, finding that comorbid depression increases the per-patient cost by around 200-400%.

Therefore this is an important subject to tackle.

(\* Axis I = mental disorder, Axis II= personality disorder, Axis III= physical conditions, Axis IV= psychosocial & environmental issues.)

### Prediction

Can we predict who is at greater risk of developing chronic pain? Basler and Zimmer ( [\[44\]](#) ) queried whether dysphoric mood as demonstrated using the Beck Depression Inventory (BDI) could predict the outcome of lumbar surgery.

They concluded that

“lack of awareness of the confounding effects of somatic items in questionnaires for the assessment of mood may contribute to erroneous conclusions drawn from studies reported in the literature.”

### Risk Factors that Predispose to Depression

- Social isolation.
- Recent losses.
- A tendency to pessimism.
- Socioeconomic pressures (loss of job, financial difficulties, marital problems
- Previous mood disturbance
- Alcohol or substance abuse.
- Previous suicide attempt(s)
- Poorly controlled pain. (Adapted from Risk factors that predispose cancer patients to depressive disorders:

Depression Guideline Panel, 1993a.)

### ANXIETY

McWilliams et al. used information from the US 1994 National Comorbidity Survey to investigate association between chronic pain conditions and common mood or anxiety disorders in the general population.

They found that whilst the presence of a single psychiatric disorder was not significantly associated with pain-related disability, the presence of multiple psychiatric disorders was associated with increased disability.

The study was limited by being based on subject self-reports of chronic pain rather than established diagnosis.

Information on the duration of pain was not collated so the chronicity of the reported pain could not be verified, but as the authors remarked, cases such as those with arthritis were likely to have been chronic by virtue of the natural history of the disease process.

The causal relationships between chronic pain, psychiatric disorders and disability were not examined.

The authors noted a paucity of studies to date on chronic pain and anxiety, and commented,

“Given that clinical researchers have tended to place little emphasis on anxiety disorders, it is reasonable to be concerned that anxiety disorders (or subsyndromal symptoms) may be unrecognized and untreated in clinical settings.”

They suggested that the relationship between chronic pain and anxiety

“warrants further study.”

Certainly, the spectrum of psychiatric morbidity that encompasses depression and anxiety should be more closely investigated, as there may be substantial cross-over between depressive and anxiety-related psychopathology.

Furthermore, patients with chronic pain may run into difficulties with opioid medication use, for example, if anxiolysis rather than analgesia is the patient's (often unconscious) principle aim when using 'as required' breakthrough medication.

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