

## DEPRESSION AMONG MEDICALLY ILL PATIENTS

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The goals of this study were to evaluate the observational studies on the relation between medical illness and depression, especially etiology, clinical characteristics and diagnostic evaluation of depression in medically ill patients. We took a comprehensive search in Scopus, Web of Knowledge, Science direct, Medline, PubMed, Google Scholar, and Scientific Information Database (SID) with no restrictions of time but only English language, search the following keywords: depression, primary depression, secondary depression, medical illness. Evidence suggests that 1 of 10 primary care patients experiences major depressive disorder (MDD), but many cases are unidentified or improperly treated. The prevalence of major depression occurs in 13-77.5% among hospitalized patients and rates for outpatients from 13% to 42%. Even though depression occurs commonly in medically ill patients, it is underdiagnosed and undertreated in fewer than one-half of cases. Depression in medically ill patients is associated with a variety of adverse outcomes including worse quality of life, reduced physical function, poor treatment adherence, longer lengths of stay (LOS), increase in hospital readmission, predicting myocardial reinfarction, repeated stroke or mortality during one to ten years, reduced functional status, increased caregiver burnout. The collaborative care model, where both depression and medical illness are simultaneously managed in the primary care setting with the aid of a consulting psychiatrist, may result in a significant reduction in depressive symptoms. *Acta Medica Medianae* 2017;56(3):42-47.

**Key words:** depression, primary depression, secondary depression, medical illness

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### Introduction

Depression is the second most common chronic condition (after hypertension) treated in general medical practice, making the prevalence and burden of depression in the medically ill a substantial clinical problem. Evidence suggests that 1 of 10 primary care patients experiences major depressive disorder (MDD), but many cases are unidentified or improperly treated (1). Depression in medically ill patients is an important clinical entity as an affective experience, a symptomatic complaint, or a clinical syndrome. Although major

depressive disorder occurs in 3.7-6.7% in the general population (2), the prevalence of major depression occurs in 13-77.5% among hospitalized patients and rates for outpatients from 13% to 42% (3). The prevalence of depression in individuals with cardiac disease, especially after myocardial infarction, was 32% (4), 18% after the first documentation of coronary artery disease by coronary angiography (5), 17% in the first year after heart transplant (6), and up to 50% in those with congestive heart failure (7). Similarly, patients with type I and type II diabetes mellitus may have a 20% to 30% prevalence of MDD, which is 2 or 3 times that of the general population (8). Studies also indicate that there is a clear association between depression and hyperglycemia, which may be related to complications in diabetes itself (9). Eighty-three point thirty-three percents of IBS patients showed very high levels of Hamilton depression score - over 15 (10). Psychological assessment of the IBS patients, compared with normal subjects or other medical patients, shows a high prevalence of stress reports, abnormal personality features, psychiatric diagnoses and illness behavior (11). Patients with depression and comorbid medical illness were more likely to still have depression at 6- and 12-month follow-up than those with only depression and no medical

illness (12). Findings from the Sequenced Treatment Alternatives to Relieve Depression (STAR\*D), the largest study (13) ever conducted on depression, showed that a comorbid medical condition was present in 52.8% of the 1,500 patients with MDD. This comorbidity was associated with older age, lower income, unemployment, limited education, longer duration of index depressive episode, and an absence of self-reported family history of depression. Regarding the remarks outlined above, the goals of this study were evaluating the observational studies on the relation between medical illness and depression, especially etiology, clinical characteristics and diagnostic evaluation of depression in medically ill patients.

We took a comprehensive search in Scopus, Web of Knowledge, Science direct, Medline, PubMed, Google Scholar, and Scientific Information Database (SID) with no restrictions of time but only English language, searching the following keywords: depression, primary depression, secondary depression, medical illness.

The differences in the prevalence of depression in medically ill patients are possibly attributable to differences in sampling, diagnostic instruments, the definition and classification of depression, and the severity of medical illness. This highlights the importance of using a universally accepted measuring instrument that will allow comparisons between populations (14). Even though depression occurs commonly in medically ill patients, it is underdiagnosed and undertreated in fewer than one half of cases. This confusion could be related to the fact that some of the symptoms of depression may overlap with those of the concomitant medical illnesses. Primary care patients, as well as hospitalized medically ill patients emphasize somatic complaints and deny mood or cognitive symptoms, or some of them report mild or nonspecific symptoms of depression. Some primary care physicians focus on physical signs and symptoms and are reluctant to stigmatize patients with psychiatric diagnosis, or avoid antidepressant prescription as a consequence of fear of hazardous antidepressant side-effects in medically compromised patients. Unfortunately, the most common cause for underdiagnosis and undertreatment in medical patients is the mistaken notion that if depression is understandable, explainable, and reactive to environmental circumstances, then it is neither pathological nor requires treatment (15). On the other hand, early detection and treatment of depression may improve the prognosis of physical disease and the patient's quality of life in general.

Depressive symptoms and disorders in hospitalized physically ill patients can amplify symptoms of medical illnesses. Depression in this population of patients is associated with a variety of adverse outcomes including worse quality of life (16), reduced physical function, poor treatment adherence, longer lengths of stay (LOS), increase in hospital readmission, predicting myocardial reinfarction (17), repeated stroke or mortality du-

ring one to ten years period (18), reduced functional status, increased caregiver burnout (19).

Several possible mechanisms may explain why depressive symptoms are associated with the worse functional status. Experienced depression may decrease motivation for, and reward from, physical and/or social activities important for the maintenance of functional independence. This is consistent with the finding that depressed patients are more difficult to engage in physical therapy, often crucial for recovery of function (20). It is possible that depression may negatively influence a patient's perceptions of what they are able to do, limiting their ability to participate in rehabilitation programs (21). Conversely, impaired function might also lead to depressive symptoms because of the perceived loss of independence and mastery. We suspect the relationship between the two is bidirectional.

Adverse economic consequences occur when depression complicates the inpatient or outpatient course of medical illness. These depressed individuals not only overused medical services, but also exhibited a poor perception of their physical health, a more distorted view of their disability and more impairment of their vocational and social roles when compared with patients without depression (22).

### **Etiology of depression in medically ill patients**

The mechanisms of comorbidity of depression and physical illness are complex (23), but four main categories are apparent:

a. Coincidence-depression is unrelated to the physical disease, but complicates the management of the physical disorder.

b. Common cause for both disorders (psychiatric and physical), for example, stressful life events in vulnerable persons may precipitate stroke and depression.

c. Psychiatric disorder may cause physical disease. One of the possible mechanisms is by suppression of immune function. There is some convincing evidence that depression is one of the major factors in the etiology of physical disease although it may be a precipitant of onset and relapse, and may affect the course. For example, it seems probable that mood at the time of myocardial infarction is a determination of subsequent mortality (4).

d. Physical disease may cause psychiatric disorder. The physical disease may cause the predisposed individuals to develop a psychiatric disorder, either by biological mechanism or as a psychological reaction.

Depression may precede the other signs and symptoms of many medical conditions: cancer, Cushing's disease, Addison's disease, hyperthyroidism and hypothyroidism even before the classic endocrine symptoms are evident (24). It seems that threat (to life, of disability, of distress) is par-

ticularly likely to lead to anxiety, whilst loss (of function, role, hopes and ambitions) is more likely to result in depression (25). Whilst both clinical experience and research evidence support this generalization, it is also apparent that the interaction between the particular type of physical disorder and individual psychological vulnerability and circumstances results in wide individual variation in patterns of psychiatric response. Acute major treatment, such as surgery, is likely to be associated with initial anxiety with possible depression during convalescence. More chronic treatment, for example, treatment of renal failure or diabetes is a common cause of mild, persistent depression. In other instances, in which the treatment is unpleasant and threatening, as in chemotherapy for cancer, anxiety can be prominent.

Certain medical conditions could be seen as risk factors which cause depression because of their biological mechanisms. When drawing such conclusions, we must consider the following: the presence of some organic factors (medical illness or treatment procedure); organic factor preceded psychiatric symptoms and treatment of this organic factor causes the disappearance of psychiatric symptoms; and negative psychiatric family history.

According to ICD X classification, this type of depression is considered to be an organic disorder. DSM V points out the lacks of the application of this term and implies to how important is to estimate the participation level of biological processes in depression etiology. That is why the concept of mood disturbance is defined as the result of general medical conditions. Along with this diagnostic category, comorbid depression which is seen in medically ill patients can be classified in one of the descriptive categories for mood disturbance using an additional code in case that it is necessary to point out the existence of comorbidity of medical illness. In DSM classifications, certain symptoms within a depressive syndrome, which is an evident consequence of a medical illness, are considered to be invalid for diagnosing major depression. This way, major depression diagnosing in somatic patients is questionable, and due to these reasons, the concept of secondary depression (26) is used in Liaison psychiatry, which is, according to The Research Diagnostic criteria defined as a disorder which affects persons suffering from non-affective psychiatric disorders or life-threatening somatic illnesses, preceding or occurring simultaneously with depression symptoms (25). In DSM classifications, there is no such term as secondary depression, and it expresses mood disturbance caused by medical illness or under the influence of certain substances. According to Goldman (25), symptoms that indicate the existence of a medical illness or a disease within depression are the following: atypical clinical picture, resistance to some common therapeutic modalities, unusual and inexplicable personality changes, as well as some subtle changes in cog-

nitive behavior observed in certain correlative tests.

The most common symptoms indicating depressive disorder among medically ill patients are: desire for death, suicidal ideas, guilt, dysphoria, confusion and discouragement (27). Feeling of weakness and fatigue, if it is a consequence of medical condition or illness, are often combined with other symptoms tending to deteriorate from morning to evening, while in the case of primary depression it is the most observable (perceptible) in the morning (27).

It is sometimes very difficult to differentiate neurovegetative symptoms in depressive syndrome, ranging from somatic symptoms of primary illness (somatic) to side effects of applied treatment of somatic disease. Yet, the vegetative symptoms, which can be seen among depressive medically ill patients, are often multiplied and more distinctive in relation to the same symptoms which are seen as a result of medical disease itself.

Winocur (26) points out certain subtle cognitive disorders, like some disorders in verbal production (speech fluency or particular words), which may be specific for mood disturbance caused by medical conditions or illness, as well as the use of certain substances. Kornig *et al.* (28) point out that in elderly patients there is a combination of cognitive/affective and somatic symptoms which could affect depression diagnosis in medically ill patients and most significant symptoms would be the loss of interest, insomnia, suicidal thoughts, hypochondric worries, so that this trend is common concerning the difference in age of the affected people. In order to understand properly this pathology, it is essential to treat individually the somatic symptoms such as anorexia, the loss of weight, sleep disturbances, psychosomatic changes, fatigue, the loss of energy, reduced sexual desire, concentration disturbances, as well as cognitive symptoms such as mood disturbance, anxiety, irritability, low self-esteem, guilt, helplessness, suicidal thoughts.

Endicott (29) suggests that diagnostic criteria of depression in medically ill patients also include cognitive-affective symptoms along with somatic symptoms such as the loss of weight, sleep disturbance, fatigue, concentration disturbance, indecisiveness. In medically ill patients the adaptation disorder is often diagnosed (30), using these three sub-categories according to ICD X classification: short depressive reaction, prolonged depressive reaction and combined anxious-depressive reaction. Medical illness and hospitalization represent crisis life events which often trigger the feeling of helplessness and lead to passive position of a patient. In such situation, affected person does the initial attempts to diminish unpleasant life situation using all available personal potentials. If they fail, some people (immature and insufficiently differentiated) resort to regression to some previous forms of behavior, reactivating immature defense mechanism, putting themselves in

dependent position with occasional outburst of anger and false criticism of their doctors. In case that this primitive diminishing strategy does not result with adaptation to newly created situation, the existing crisis will cause maladaptive behavior which can be described as adjustment disorder. The adjustment disorder with a clinical picture where depressive mood dominates (prevails) is commonly diagnosed in the population of medically ill patients (30), and represents one of the positive indications (favorable) for psychotherapy.

### Clinical differences between primary and secondary depression

Winokur (26) points out the following differences: later onset; greater possibility of positive reaction to electroconvulsive therapy; greater possibility of positive recovery after releasing patients from hospital; greater possibility of observing organic disorders of the CNS in the clinical picture; greater possibility of lower alcoholic incidence and depression among relatives - 19%, while in case of primary depression the major incidence of these diseases is 16%; suicidal ideas, thoughts, intentions and attempts are less frequent (10% in relation to primary depression whereas this percentage is 45%). Other differences are also enumerated: medically ill depressive patients were older, the depression was less intensive, heredity and facts concerning depressive episodes in life history were significantly less present, as well as female predomination, which is common for depression that can be seen in psychiatric population of medically healthy patients. Moffic and Paycel (31) found out that somatic worries, sleep and appetite disorder, even if they are seen among medically ill patients, can help to distinct hospitalized medically ill depressive patients from the ones who are not depressive. Berios and Samuel (32) point out that some depressive neurologically ill patients showed significant mood decrease, psychomotoric retardation, suicidal ideas and irritability in relation to neurologically non-depressive patients. In relation to psychiatric patients,

neurological patients had less symptoms such as morning awakenings, guilt, suicidal ideas, while irritability and headache were more present among neurologically depressive patients in relation to psychiatric depressive patients. In the differential diagnosis between primary and secondary depression, it is highly important to observe life and family history, as well as complete physical and laboratory check-up. Most patients with primary depression have a life history of previous mood disturbance. It is different among those with organic mood disturbance, who show this data in only 20% (32), while the family history is negative. If it is positive, it is likely to be primary depression.

### Conclusion

Depression is a common condition among the medically ill. Those who suffer from this debilitating disorder in addition to a medical condition are often underdiagnosed and undertreated. Depression in medically ill patients leads to increased morbidity and mortality rates, decreased productivity and psychosocial functioning, decreased ability to function normally with family and friends, and an increased use of medical resources. Therefore, patients with medical illnesses should be screened for depression. Observed differences in the prevalence of depression in medically ill patients are possibly attributable to differences in sampling, diagnostic instruments, the definition and classification of depression, and the severity of medical illness. This highlights the importance of using a universally accepted measuring instrument that will allow comparisons between populations. Physicians should also consider several other patient characteristics besides the medical illness that may alert them to a risk for developing depression. The collaborative care model, where both depression and medical illness are simultaneously managed in the primary care setting with the aid of a consulting psychiatrist, may result in a significant reduction in depressive symptoms.

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Revijalni rad

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doi:10.5633/amm.2017.0307**DEPRESIJA KOD OBOLELIH OD SOMATSKIH  
BOLESTI***Suzana Tošić-Golubović<sup>1,2</sup>, Violeta Slavković<sup>2</sup>, Vladica Sibinović<sup>2</sup>,  
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Ciljevi ovog rada bili su evaluacija opserviranih studija koje su se bavile odnosom između somatskih bolesti i depresije, posebno etilogijom, kliničkim karakteristikama i dijagnostičkom evaluacijom depresije kod obolelih od somatskih bolesti. Preduzeli smo sveobuhvatnu pretragu u sledećim bazama podataka: Scopus, Web of Knowledge, Science direct, Medline, PubMed, Google Scholar, and Scientific Information Database (SID), bez restrikcija koje bi se odnosile na vreme objavljivanja, ali samo na engleskom jeziku, koristeći u pretrazi sledeće ključne reči: depresija, primarna depresija, sekundarna depresija, somatska bolest. Podaci iz literature ukazuju da jedan od 10 pacijenata iz primarne zdravstvene zaštite oboli od major depresije, ali u mnogim slučajevima njihov poremećaj ne bude dijagnostifikovan i adekvatno lečen. Prevalencija za major depresiju se kreće od 13% do 77,5% u populaciji hospitalizovanih bolesnika, dok u populaciji ambulantno tretiranih ona iznosi od 13% do 42% (3). Uprkos tome što se depresija često javlja u obolelih od somatskih bolesti, ona se neadekvatno dijagnostikuje i tretira u više od polovine slučajeva. Depresija kod ovih bolesnika povezana je sa nizom nepovoljnih efekata na ishod poremećaja, uključujući pogoršanje kvaliteta života (16), redukciju fizičkog funkcionisanja, lošiju saradnju u terapiji, duže periode hospitalizacije, učestalije rehospitalizacije. Ona predstavlja faktor predikcije za ponovni infarkt miokarda (17), inzult mozga, povećavajući stopu mortaliteta u periodu od deset godina nakon inzulta (18), dovodi do pogoršanja u funkcionisanju, dovodi do povećanog angažovanja i iscrpljivanja među osobama koje pružaju negu ovim licima (19). Kolaborativni model brige, u kome se simultano tretiraju depresija i somatska bolest u primarnoj zdravstvenoj zaštiti, uz pomoćno angažovanje psihijatra, može dovesti do značajne redukcije depresivnih simptoma. *Acta Medica Medianae 2017;56(3):42-47.*

**Ključne reči:** *depresija, primarna depresija, sekundarna depresija, somatska bolest*

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