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Coexistence of mental and somatic diseases and difficulties in diagnosis and working with mentally ill people

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Abstract

Introduction and purpose:

The co-occurrence of mental illness and somatic diseases is a relationship confirmed by researchers in the fields of clinical medicine, health psychology or neuroscience. This article aims to present and discuss the interrelationship between mental and somatic diseases and to present issues related to the process of diagnosis.

State of knowledge (brief description):

Depression, schizophrenia, eating disorders and anxiety disorders are mental illnesses cited among researchers on the basis of studies as particularly prone to somatic comorbidities. Among somatic diseases, on the other hand, cancer is cited as the most frequently implicated in psychiatric comorbidity. However, this is not a clear-cut problem, as the impact of somatic and mental illnesses on each other can be bidirectional. Diagnosis of these requires a physician to have a great deal of factual knowledge and great vigilance in conducting an interview that may be conducted not only with the patient, but also with his family or environment.

Summary:

Working with people who are both mentally and somatically ill is a job that requires knowledge that combines both disciplines. Data indicate that 20-35% of patients with chronic somatic disease also have an additional psychiatric diagnosis; somatization of mental problems is a common phenomenon in outpatient treatment.

Key words: mental disorders, depression, schizophrenia, feeding and eating disorders, anxiety disorders

Introduction and purpose

Considering the definition proposed in DSM-V by the American Psychiatric Association, mental illness can be defined as a *syndrome characterized by clinically significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or development processes underlying mental functioning* [1]. It is worth noting that mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities. Mental and somatic illnesses affect each other [2]. Mental illnesses can induce the appearance of somatic disorders; this also works the other way – a chronic somatic illness can lead to the development of a mental illness. Studies indicate that 20-35% of patients with chronic somatic disease also have an additional psychiatric diagnosis [2].

The main purpose of presented article is to present the phenomenon of coexistence of mental illnesses with somatic diseases and to illustrate the problem of diagnosis and contact with the patient.

State of knowledge

The section below will describe selected mental illnesses and their relationship to somatic illnesses. I will also describe the obstacles that may occur when working with a mentally ill patient.

Eating disorders

The etiology of eating disorders is very complex. Their genesis has still not been discovered although it is indicated that psychological, personality, environmental, cultural, and genetic factors play a very important role in their development [3]. With widespread access to television or social media, having a body that fits into the canon depicted in the media is becoming a goal that many people aspire to. Also, there is the cult of health termed "healthism" which spreads the idea that health is more significant than all other values, and that achieving it is the main goal of a person's life [4]. Genetic factors may be responsible for the occurrence of eating disorders at 50-70%, while the environment may only be responsible at 30-50%. Heritability for anorexia was determined at 58-76% and bulimia at 28-83% [5, 6, 7, 8].

Eating disorders are a group of disorders in which patients present with severe eating abnormalities and related thinking and emotional abnormalities. Typically, people suffering from eating disorders torment themselves with thoughts about food and their weight. As a result of many activities leading to underweight, a number of disorders in the functioning of various organs develop [2]. Eating disorders include (according to the ICD-11 classification) mental anorexia nervosa, bulimia, overeating seizure disorders, eating disorders involving avoidance or restriction of food intake, pica or cyclic vomiting syndrome, among others. Diseases that lead to very serious weakening of the body – anorexia, for example – are very deadly diseases. For anorexia, it is as high as 5% [9]. Somatic complications are the first cause of death, before suicide [10]. Very common comorbid complications are cardiac problems. These can occur in as many as 60% [11]. They may involve myocardial, pericardial, mitral valve and/or the heart related conduction system problems. Clinical observations have shown the possibility of left ventricular dysfunction, myocardial hypotrophy, mitral valve prolapse, and pericardial effusion, so regular electrocardiogram (ECG) and echocardiography-Doppler are recommended in anorexia patients [11, 12]. In bulimia, common somatic complications include gastrointestinal

disorders (diarrhea, constipation), gastroesophageal reflux, dental caries, enamel damage, and electrolyte disorders [2]. They are the consequences of the patient's weight-control behaviors through starvation, vomiting, extremely intense exercise, abuse of laxatives and other medications. In addition to these somatic consequences, there is an increased risk of developing osteoporosis, kidney failure, immune disorders, and a higher incidence of infections [2].

Depressive disorders

Depressive disorders according to ICD-11 are characterized by depressive mood (sadness, irritability, feelings of emptiness), anhedonia and other cognitive, behavioral or neurovegetative symptoms affecting an individual's ability to function normally [13]. Following recent WHO reports, up to 350 million people worldwide may be suffering from depression. Data show that depression is diagnosed in 3% of the population – it is diagnosed more often in women than in men and affects women over the age of 50 at a higher rate than younger women [14].

There are a variety of terms in the literature to define somatic symptoms in depression. A distinction is made between somatic, somatized, physical, bodily, somatoform, painful, psychosomatic, vegetative, medically unexplained, or masked, among others, and how these terms are used depends on the specific theory or diagnostic concept [15]. When referring to states of depressive mood, the preferred term is "somatic" which is understood to mean various bodily sensations that a person struggling with depression perceives as unpleasant or disturbing [16]. Hamilton concluded through clinical studies that somatic symptoms predominate in the vast majority of patients with depression [17]. Somatic symptoms - mainly somatic anxiety and fatigue were diagnosed in 80% of the 499 people surveyed (260 women, 239 men). The aforementioned somatic symptoms often had underlying psychopathological hypochondria regardless of gender. In depression, however, somatic symptoms are not only fatigue or somatic anxiety, but pain is also a common phenomenon [18]. Based on epidemiological studies, it has been shown that prevalence rate of depressive disorder in patients with chronic pain assessed in pain clinics of 52% and a mean prevalence of pain in depressed patients of 65% [19]. At the primary care level, 69.1% with depressive disorders reported at least moderate pain symptoms while only 38.6% of patients without depressive disorders reported moderate pain symptoms [20]. A common phenomenon both among patients with depression and pain is the phenomenon of catastrophizing (expecting the worst possible outcome) and it has a bad effect on treatment outcomes [21]; patients with catastrophizing describe their situation as an unbearable, terrible. Turning to the neurological point of view several brain regions have been implicated in both depressive disorder and pain. The most extensive research has been done on the insular cortex, prefrontal cortex (PFC), anterior cingulate cortex (ACC), amygdala and hippocampus. Imaging studies in patients with fibromyalgia who exhibit catastrophizing pain symptoms have shown activation of brain areas that are responsible for pain anticipation (medial frontal cortex and cerebellum), attention to pain (dorsal ACC and dorsolateral PFC), emotional aspects of pain (claustrum) and motor control [21]. An interesting phenomenon is the effect, confirmed by research, of catastrophizing one's expectations of pain before knee replacement surgery on feeling, experiencing more pain after surgery [22]. Generally, catastrophizing appears to be positively related to the severity of pain [23].

A study was also conducted (on a sample of 4256 patients between the ages of 18 and 65) to verify the relationship between depression and cardiovascular disease [23]. The study was conducted in Poland – the Beck Depression Inventory was used. Patients whose score was ≥ 12 BDI points had to be examined with The Mini International Neuropsychiatric Interview (MINI) to verify the BDI score. The next step was to refer patients for psychiatric consultation, which was used by 56% of patients. Scores were collected by 178 primary care physicians nationwide. Both cardiovascular disease (most commonly coronary artery disease) and depression were

observed in 12% of all subjects surveyed. In addition, depression can take on the mask of cardiovascular disease: 2% of all subjects had depression and cardiovascular complaints (80% have chest pain or discomfort) without cardiovascular disease; 42% of patients with only cardiac complaints without a diagnosed disease suffer from depression [23]. Similar population-based studies in other countries have demonstrated a similar magnitude of the phenomenon [24, 25, 26]. In the ENRICHD (Enhancing Recovery In Coronary Heart Disease) study [26] conducted on a group of 2481 patients after myocardial infarction, depression was found in 39% of subjects, of which women showed significantly more severe depressive symptoms than men.

Associations between autoimmune diseases and depression have also been demonstrated [27]. Among people with Systemic Lupus Erythematosus, the percentage of depressed patients may be as high as 39% [28], although other studies show instead a slightly higher prevalence of anxiety disorders than depression [29]. Taiwanese researchers have shown that patients struggling with Primary Sjogren's Syndrome are at a significant risk for co-occurrence of depression, anxiety or sleep disorders - but it should be noted that the aforementioned disease more often affects women [30]. Among autoimmune diseases, systemic sclerosis due to microvascular damage can also cause mood, anxiety, and cognitive disorders [31]. The prevalence of depressive disorders is estimated to range from 17% to 69% [32]. Interestingly, patients with this disease show more severe symptoms of depression and anxiety than patients with melanoma [33] – however, it must be considered that depression is sometimes unrecognized in cancer patients. Sadness, an abnormal mood in cancer is natural, and the somatic symptoms of depression can be attributed to cancer [34].

Schizophrenia

Schizophrenia is a very serious disease - the World Health Organization's ranking includes it as one of the top 10 illnesses contributing to the global burden of disease [35]. Based on the data collected, schizophrenia is estimated to occur in 1% of the population [36]. According to the ICD-11 classification, to be diagnosed with schizophrenia, there must be at least two symptoms (observed by the patient, doctor, or others) present for a month or more [37]. These are: persistent delusions, persistent hallucinations, disorganized thinking, experiences of influence, passivity or control, negative symptoms (alogia or paucity of speech, avolition, asociality, anhedonia), grossly disorganized behaviour that impedes goal-directed activity, psychomotor disturbances [37]. It is estimated that in patients with schizophrenia, the pathogenesis begins in the early neurodevelopmental period [38]. This may be influenced by situations such as maternal infections and starvation during pregnancy or premature birth. Moreover, modern studies have found common genetic elements in schizophrenia with other mental illnesses, especially bipolar disorder [39]. The prevalence of schizophrenia among men and women is equal. In men, however, an earlier onset, more severe course and more severe negative symptoms can be observed. People with schizophrenia often have somatic comorbidities and are at increased risk of illness and early death [40]. Contributing factors include the psychological and physical stress accompanying schizophrenia, cognitive problems, or adverse effects of pharmacotherapy [41, 42]. Antipsychotic drugs increase the chance of developing metabolic syndrome and diabetes mellitus [43]. Based on a review of the literature, Leucht and colleagues identified four causes of increased somatic comorbidity in patients with schizophrenia: disease-related factors, drug treatment-related factors, system-related factors including stigmas on mental illnesses, and physician related factors [44]. The aforementioned diabetes was the first chronic disease diagnosed in schizophrenic patients and in patients using antipsychotic drugs. People with schizophrenia have an increased risk of developing diabetes [45], especially type II diabetes, but the risk of type I diabetes may also be elevated [45, 46]. Similar to the general population, the incidence of type II diabetes in people with schizophrenia

increases with age, while the risk of diabetes in people with schizophrenia is 2 to 5 times higher in all age groups than in the general population [45]. Some recent studies suggest that type I diabetes can increase the risk of schizophrenia by up to twofold (1.5-2) [46, 47]. Moreover, people who have been diagnosed with schizophrenia or have a family history of schizophrenia have an increased risk of type I diabetes [48]. The leading cause of excess premature mortality in schizophrenia patients is coronary heart disease (CHD) [49]. The main CHD risk factors of patients with schizophrenia are cigarette smoking, blood cholesterol, hypertension, obesity, and diabetes mellitus - these diseases and behaviors are more common in patients with schizophrenia than in the general population [49]. Less access to medical care or lack of discipline in adhering to medical recommendations may also be a problem that increases the risk of CHD. Based on a meta-analysis of data collected since 1990, CHD mortality was 90% higher in patients with schizophrenia relative to patients in the general population [50]. In contrast, another analysis says that patients with schizophrenia were twice as likely to die from CHD [40]. Patients with schizophrenia also have an increased risk of metabolic syndrome, chronic obstructive pulmonary disease, hypertension, lipid disorders, hepatitis C virus, and addiction to alcohol, cigarettes, and psychoactive drugs [51, 52, 53]. There may also be a problem with increased body weight - atypical neuroleptics (clozapine, olanzapine) have a significant effect on weight gain [54].

Anxiety disorders

Generalized anxiety disorders occur in 1.1% of the population (more common in women), while panic attacks can affect up to 6.2% [55]. Following the ICD-11 classification, anxiety and fear-related disorders are characterized by excessive fear, anxiety and related behavioral disorders, with these symptoms having to be present in an intensity that causes distress or significant impairment in family, educational, occupational, personal, social or other important areas of functioning. The basis in distinguishing between anxiety and fear-related disorders is the disorder-specific foci of apprehension, i.e., the stimulus or situations that trigger anxiety or fear. Fear and anxiety are closely related - fear is a reaction to a directly perceived threat in the present, in the moment, while anxiety is more future-oriented. Some studies confirm the presence of emotional influences in some dermatoses: in vitiligo, pemphigus, alopecia areata, psoriasis. Neurotransmitters have been discovered in the skin to play an important role in pain, pruritus, and inflammatory dermatoses [56]. Using psychotherapy in a group of Azotropic Dermatitis patients, not only a reduction in anxiety, but also an improvement in dermatological conditions has been noted [57]. In addition to their specific symptoms, some somatic diseases can run together with anxiety attacks - for example, cardiovascular diseases (ischemic heart disease, myocardial infarction) [58]. Anxiety attacks can also occur in patients with pheochromocytoma [59, 60] and in those with abstinence syndrome [61]. Anxiety disorders may also be more common in patients with atopic dermatitis [56] or cancer [34]. Chronic anxiety also promotes additional psychiatric disorders such as addiction (alcohol, tranquilizers), sleep disorders, other anxiety disorders, depression, eating disorders and an increased risk of suicide [63].

Diagnosing and difficulties in working with patients with psychiatric and somatic illnesses

Working with people who are simultaneously mentally and somatically ill is a task that requires knowledge combining both disciplines, interdisciplinary knowledge. In clinical practice, the co-occurrence of mental illness and somatic disorders can be considered the rule rather than the exception - the existence of interdependencies between mental and somatic conditions is undeniable. Their existence has been confirmed by modern knowledge of clinical medicine, health psychology and knowledge of neuroscience. Links, these interrelationships can be expressed in the influence of the mental state on the onset and course of somatic disease, in

mental reactions to somatic diseases, in the occurrence of functional disorders in response to psychosocial situations, and in the co-occurrence of somatic disease and mental disorder [56]. Somatization of mental problems is a common phenomenon in outpatient treatment.

As already mentioned, an important aspect in working with patients is the competence of doctors. Science is constantly trying to provide answers to doctors' and researchers' questions, and to improve the process of diagnosis and treatment. To make a correct diagnosis and plan treatment, it is very important to have a thorough knowledge of the possible sources of disease - this is very complex and depends on many factors. In the pathogenesis of both somatic and psychiatric diseases, biological and psychosocial factors play an extremely important role - psychosocial factors are considered to be one of the causes directly causing changes in the patient's health; the possibility of psychosocial factors conditioning the immunosuppressive response has been found [63]. Stressful events (for example, the death of a loved one), feelings of helplessness, frustration – these can lead to an increase in the incidence of diseases associated with a decline in immunity. When working with patients, it is important to remember that mental disorders can be part of the clinical picture of somatic disease. Unfortunately, despite the high frequency of mental disorders among patients with somatic diseases, mental disorders are often unrecognized. The relationship between somatic diseases and mental illnesses is very often bidirectional [64]. Considering the example of type II diabetes – it is possible to speak both of the influence of type II diabetes on the development of depression and vice versa: when a person with normal carbohydrate metabolism develops a psychiatric disease then conditions favorable to diabetes arise [56]. No somatic disease causes pathognomonic psychiatric disorders, while any disease can be accompanied by psychopathological symptoms [56] – a psychiatric disorder can be an expression of a psychological reaction to a somatic disease [65]. If the cause of somatic complaints lies in the psychological sphere, the biological treatment of the disease by pharmacology is only concerned with its effects [66]. Numerous studies and publications on the links between depression and cardiovascular problems emphasize not only the significant prevalence of depression among those seeking advice from a primary care physician, but also the frequent lack of proper diagnosis [23]. Because of this, those in need of specialized help are left untreated – an example is the group of people with ischemic heart disease: comorbid depression is diagnosed in 25% of patients and treated in only 12.5% [67]. In the past, there was a lack of awareness among primary care physicians of the risk of somatic comorbidities in schizophrenic patients, as well as little knowledge of the side effects of antipsychotic drugs [68]. Currently, the level of awareness among professionals is increasing, and numerous studies and publications are shedding more and more light on the diseases and how to deal with people struggling with them. The increasing competence of those who diagnose and admit patients is a chance to start treatment much earlier than when symptoms are more severe, which is also associated with the possibility of getting better results faster with treatment. In the opposite situation, unfortunately, it is possible to speak of a problem projecting the future health and life of the patient.

Due to the frequent co-occurrence of somatic and psychiatric disorders and because of their mutual influence in the diagnostic process, it is incredibly important in the treatment process to meticulously interview the patient (and/or the patient's family), perform a thorough physical examination and order appropriate additional tests if necessary. GPs (general practitioners) should be aware of the high risk of somatic comorbidity and take into account possible cognitive and social functioning problems in the patients they will be working with. Among other things, the desirable attitude is one of vigilance, being proactive in skillfully verifying messages from the patient that reach the doctor. GPs should ask and respect the patient's valuing of screening, diagnostic procedures, and treatment [69].

An important element in working with mentally disturbed people is the ability to create an appropriate relationship between the investigator and the person being investigated. It becomes crucial to maintain a balance between offering necessary care and assistance and an appropriate distance that does not lead to a loss of contact with the patient. Although compassion and offering help to patients is a priority for GPs [70], in the case of psychotic or paranoid patients, getting too close to them may result in their withdrawal from wanting to be covered by medical care. Moreover - low levels of motivation to seek treatment can be observed among mentally ill patients.

In the context of the proper relationship between the investigator and the respondent, as well as the appropriate approach to somatic illness by doctors in mentally ill people, the results of a study conducted by German researchers [71] are relevant. The study of 435 patients yielded information about the quality of the services provided and the patients' perception of them. Despite the fact that almost all patients were taking medication, some patients did not undergo blood tests or ECGs. What's more, during visits to the GP, the study participants felt discriminated against and stigmatized [71]. These are alarming data, since psychopharmacological treatment often requires close medical examination. Significant negative correlations were observed between the number of somatic diagnoses and the time spans since last contact with a doctor, last blood test or ECG.

Summary

The present work was aimed at presenting and discussing the interrelationship between mental and somatic diseases and presenting issues related to the process of diagnosis. In clinical practice, the co-occurrence of mental illnesses and somatic disorders can be considered a rule - their existence has been confirmed by modern knowledge of clinical medicine, health psychology and knowledge of neuroscience. Mental illnesses particularly prone to somatic comorbidity are depression, schizophrenia, eating disorders and anxiety disorders. Among the somatic diseases that can impinge on the co-occurrence of a mental illness, cancer is mainly mentioned – these can usually lead to depression, although it is worth noting that the influence of somatic and mental illnesses on each other can be bidirectional. Among other things, primary care physicians, in view of the complexity of the problem of comorbidity, should be vigilant and substantive - awareness of the high risk of somatic comorbidity and skillful interpretation of possible problems in the patient's social or cognitive functioning can help establish a quick and accurate diagnosis.

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