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The Role of Psychological Factors in Medical Presentations

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Research shows that a large number of medical presentations do not result in a medical diagnosis but rather are related to behavioral health problems. Factors such as age, lower education and economic status, health beliefs, and medical and psychological factors are linked to high medical service utilization. Research consistently shows that patients with psychological problems use more services than those without diagnosable psychological problems. The purpose of this paper is to provide a more detailed analysis of the roles of psychological factors in medical presentations. We present three kinds of pathways by which psychological factors lead to medical presentations. These include the (1) primary or direct medical presentation of a clinical problem, (2) secondary presentation or the impact of the clinical problem on patients' general physical, psychological, or psychosocial health, and (3) the complex presentation or the impact of multiple diagnoses on the presentation of the clinical problem. Examples of each of these pathways are presented for each axis of the DSM-IV.

KEY WORDS: medical service utilization; pathways to medical presentations; high utilizers; health care utilization; integrated care.

Researchers have found that large portions of health care costs are concentrated in a small number of individuals (Anderson & Knickman, 1984; Ash, Zhao, Ellis, & Kramer, 2001; Liptzin, Regier, & Goldberg, 1980). For example, Ash et al. reported that the most expensive 20% of the population accounted for 88% of the total health care expenditures in 1998. Furthermore, many of these patients present with behavioral health problems such as anxiety, depression, and substance abuse (Katon, 1986). Interestingly, some individuals with a physical problem (e.g., a suspicious mole) present to a medical setting while other individuals with the same problem do not. If an actual physical problem is neither a necessary or sufficient cause for a person to seek medical services, what are the factors that contribute to the behavior of seeking medical services?

A wide variety of factors have been linked to increased medical service utilization including: chronic psychological and medical conditions, advanced age, lower education, personality characteristics (such as neuroticism), and patient beliefs regarding when to see a physician (Friedman, Sobel, Myers, Caudill, & Benson, 1995; Garis & Farmer, 2002; Sansone, Sansone, & Wiederman, 1996). In addition, research consistently finds that patients with psychological problems such as personality disorders use medical services more than those without diagnosable psychological problems (Sansone et al., 1996). Therefore, the purpose of this paper is to further elucidate the roles of psychological factors in medical presentations. In doing so, we will present the (1) primary or direct medical presentation of a clinical problem (e.g., major depression), (2) secondary presentation or the impact of the clinical problem on patients' general physical, psychological, and/or psychosocial health and (3) complex presentation or the impact of multiple diagnoses on the presentation of the clinical problem. This approach to examining medical presentations is discussed in the context of

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each axis found in the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV) (American Psychiatric Association, 1994). However, we will first provide a brief general discussion of the various factors that impact medical service utilization.

Factors that Drive Medical Help Seeking Behavior

Medical help seeking is a complex set of behaviors that is impacted by many factors including the presence of physical symptoms. In a classic study, Reidenberg and Lowenthal (1968) studied the prevalence of somatic complaints commonly reported as medication side effects. The researchers examined 414 participants, 175 college students and 239 hospital employees that neither reported having any medical conditions nor reported taking any medications that might otherwise account for self-reported physical symptoms. Percentages of symptoms reported were as follows (hospital group in parenthesis): 37% (41%) reported fatigue, 3% (8%) reported skin rash, 27% (25%) reported an inability to concentrate, insomnia 10% (7%), headaches 13% (15%), and muscle pain 11% (10%). Furthermore, only 23% of college students and 16% of hospital employees reported no symptoms at the time of the survey. These results show that the presence of somatic complaints, often considered drug side effects, is commonly present in a group of healthy, non-prescription drug using, participants. Furthermore, Reidenberg and Lowenthal suggest that physically healthy patients can make misattributions to help explain the occurrence of physical symptoms, and that these symptoms are affected by both the physical and emotional states of the participant. Similarly, Friedman (2003) suggests that a baseline level of physical symptoms is present in the general population, which may explain why some individuals "discover" physical ailments after experiencing a major life event or stressor (e.g., automobile accident or severe depression).

Research suggests that physical symptoms alone account for only a small amount of variation in medical presentations. Berkanovic, Telesky, and Reeder (1981) used a hierarchical multiple regression analysis to examine the amount of variance accounted for by five factors (need, social structure, organizational, social network patterns, and social network influences) on medical help seeking behavior in 1,210 patients. They found that need factors (which included the presence of physical symptoms) accounted for only 12% of the variance, while all five factors accounted for 57% of the variance in help seeking behavior, suggesting that psychosocial factors play a significant role in explaining medical presentations. Other factors such as age, socioeconomic status, and gender have been linked to medical help seeking (Borras, 1994). Travassos, Viacava, Pinheiro, and Brito (2002) found in one Brazilian sample that women seek medical services more often than men, and furthermore, utilization patterns were affected by family income and social status.

Psychosocial factors such as, attitudes and health beliefs, inadequate health information, unhealthy lifestyle habits, problems with treatment adherence, and psychological distress can influence a person's decision to seek medical services (Friedman et al., 1995; O'Donohue & Cucciare, 2004; in review). For example, Cummings (1997) suggests that the presence of emotional problems can play an important role in a person's decision to seek medical services. Cummings refers to this pathway as somatization, which he defines as the process by which emotional problems manifest as (or exacerbate) physical complaints.

In the following section(s), we will examine the impact of clinical problems associated with each axis of the DSM-IV on three types of medical presentations. First, we will present the primary diagnostic features of the clinical problem. Second, any associated features or comorbidities of the clinical problem are discussed. Third, we present the interaction of multiple diagnoses on the presentation of the clinical problem.

AXIS I: EXAMPLE: MAJOR DEPRESSION

Axis I of the DSM-IV is used to report a variety of disorders, and among the most commonly reported are mood disorders. One of the most prevalent and commonly studied mood disorders is major depression. DSM-IV diagnostic criteria for a major depressive episode includes: depressed mood, anhedonia, significant changes in weight (gain or loss), significant changes in sleep patterns (insomnia or hypersomnia), psychomotor distress, fatigue, feelings of worthlessness, reduced ability to make decisions or think in a clear manner, and frequent thoughts of death or suicide (American Psychiatric Association, 1994, p. 327).

Estimates of major depression in primary care range from approximately 5% to 13% (Coyne, Thompson, Klinkman, & Nease, 2002). Symptoms of depression are more commonly found in women (Wu, Parkerson, & Doraiswamy, 2002). Also, major

depression often goes undetected in primary care and recent reports suggest that as many as 70% of patients presenting to primary care with major depression are undiagnosed (Coyne et al., 2002). Given its prevalence and rate of accurate detection, depression is a major public health problem.

Primary Presentation of Major Depression

Patients with depression can present to primary care reporting various diagnostic features. Some of the more prevalent include: increased irritability, reduced or increased appetite and subsequent changes in weight, psychomotor agitation or retardation, insomnia, and suicidal ideation (American Psychiatric Association, 1994, p. 321). For example, researchers report that as many as 80% of the depressed patients report problems sleeping in their visit to primary care (Doghramji & Fredman, 1999), and 16.9% report having suicidal thoughts (Goodwin et al., 2001).

Patients presenting with symptoms of depression are most commonly treated by medication (Barrett et al., 1999; Regier et al., 1993). A study conducted by Olfson et al. (2002), examined the proportion of patients receiving outpatient treatment for depression that had been (1) treated by a physician and (2) had received antidepressant medications. Their study revealed that 87.3% of depressed patients seeking outpatient treatment were treated by their physician. In addition, 74.5% of patients receiving outpatient treatment for depression had been prescribed antidepressant medications.

Secondary Presentation of Major Depression

Patients with major depression report a variety of associated problems. Some of the most common include: tearfulness, obsessive ruminations, anxiety, phobias, excessive worry over physical health, sexual dysfunction, and somatic complaints (American Psychiatric Association, 1994, p. 323). Somatic complaints are particularly common with approximately 68% of depressed patients presenting to primary care only reporting physical symptoms (Simon, VonKorff, Piccinelli, Fullerton, & Ormel, 1999). Gerber et al. (1992) investigated the prevalence of physical complaints in 1042 depressed primary care patients and found that 43% complained of musculoskeletal complaints, while 39% complained of back pain. Similarly, Jain and Russ (2003) found that depressed primary care patients commonly reported headaches, backaches, and gastrointestinal difficulties.

Major depression is linked to problems in functioning such as missed workdays, job stress, and marital dissatisfaction. Simon et al. (2000) examined the number of missed workdays in a sample of depressed primary care patients randomly assigned to three types of antidepressant medication (desipramine, fluoxetine, or imipramine). They found that at baseline (pre-treatment), depressed patients missed as many as 19 workdays (in 90 days) compared to as little as four missed at 24 months post treatment. Not surprisingly, patients who achieved remission missed about 10 fewer work days than patients displaying persistent depression. Iacovidas, Fountoulakis, Kaprinis, and Kaprinis (2002) reviewed several studies investigating the relationship between depression, job "burnout," job stress, and suicidal ideation. They found consistent evidence for a strong link between depression and job stressors; however, the direction of the relationship remains unclear. That is, depression may negatively impact an individual's ability to cope with job stressors and increased job stress can lead to depressive symptoms. For example, Iacovidas et al. (2002) reported that work related stress accounts for as much as 41% of the variance in general health. Furthermore, high levels of stress are linked to physical symptoms such as: indigestion, headaches, lightheadedness, weakness/fatigue, and rashes (Bromet, Dew, Parkinson, Cohen, & Schwartz, 1992).

Complex Presentation of Major Depression

Patients diagnosed with depression present to medical settings with multiple interacting psychiatric diagnoses. Desai and Jann (2000) reported that women who suffer from major depression are more likely to have comorbid psychological problems such as anxiety and eating disorders. Goodwin et al. (2001) examined 1,007 primary care patients and found that those suffering from both major depression and panic disorder had higher rates of suicidal ideation (38.5%) than patients diagnosed with either depression (16.9%) or panic disorder (11.4%) alone. Also, increased risk of substance abuse (Myrick & Brady, 2003) and obesity (Dong, Sanchez, & Price, in press) has been found in samples of depressed individuals. Furthermore obesity can lead to further health problems such as hypertension, coronary artery disease, and diabetes (American Heart Association, 2004). Finally, patients presenting to primary care with comorbid major depression and anxiety display poorer treatment outcomes and increased treatment

resistance than patients diagnosed with either condition (Lydiard & Brawman-Mintzer, 1998).

Depression can accelerate the onset and negatively impact the patients' ability to effectively manage chronic disease. Clouse et al. (2003) found that diabetic (type 1 and 2) female patients diagnosed with comorbid depression displayed a greater risk for developing coronary heart disease when compared to nondepressed diabetics. Whittemore, Melkus, and Grey (2004) studied the prevalence of depression in a sample of female diabetic patients and found that 44% and 34% of the sample reported either current depressed mood or a history of depression, respectively. Finally, diabetic patients suffering from comorbid depression display greater difficulty in adhering to disease management regiments such as home glucose monitoring (McGill et al., 1992) and medication regiments (DiMatteo, Lepper, & Croghan, 2000) making them more susceptible to disease related complications.

Other Axis I clinical problems are prevalent in medical settings. These include (prevalence rates in parenthesis): panic disorder (25%) and panic attacks (13.6%) (Goodwin et al., 2001); and substance abuse (14%) (Coulehan, Zettler-Segal, Block, McClelland, & Schulberg, 1987). The impact of these psychological problems on medical presentations could be parsed using the present method.

AXIS II: EXAMPLE: BORDERLINE PERSONALITY DISORDER

Most of Axis II of the DSM-IV is used for reporting personality disorders (mental retardation is also part of this axis) such as borderline personality disorder (BPD). BPD is characterized by a pattern of unstable relationships and sense of self, along with striking impulsivity in interpersonal relationships. Patients with BPD commonly engage in harmful (e.g., substance abuse and/or reckless driving), suicidal, and parasuicidal behaviors; display unstable mood and feelings of worthlessness or emptiness; and commonly engage in dissociative or paranoid behaviors (American Psychiatric Association, 1994, p. 654).

Hueston, Mainous, and Schilling (1996) examined the prevalence of personality disorders in 93 primary care patients using the Structured Clinical Interview for DSM-III Axis II (SCID-II) and found that 26% met diagnostic criteria for BPD. Research shows that patients displaying symptoms of BPD present to primary care more often than patients without BPD, and increased symptom severity is positively correlated with increased consumption of medical services (Sansone et al., 1996). Also, BPD patients use more inpatient psychiatric care than patients with other psychological problems (Bender et al., 2001).

Patients with BPD often go undiagnosed in primary care and/or fail to receive appropriate treatment. Gross et al. (2002) found in one sample that roughly 50% of the patients presenting with BPD had not received treatment in the past year, and 42.9% had not be identified by their primary care physician as having any emotional problems.

Primary Presentation of Borderline Personality Disorder

Patients with BPD purposely engage in various self-harm behaviors that can lead to medical help seeking. In one sample of primary care BPD patients, as many as 20.8% reported attempting to overdose on a lethal substance, 29.2% cut, 9.1% burned, 20.8% scratched, 16.7% hit themselves, and 25% purposely banged their head (Sansone, Weiderman, Sansone, & Monteith, 2000). These behaviors at least partially contribute to enormous medical costs. Bateman and Fonagy (2003) reported mean annual costs for a sample of BPD patients for inpatient psychiatric care ranged from $24,252 to $27,746, while mean annual costs for their emergency room care ranged from $4,338 to $4,658.

Patients with BPD experience difficulties with self-image and display poor impulse control, which may explain why some BPD patients suffer from weight disorders such as obesity. Sansone, Weidermann, and Monteith (2001) found significant correlations between increased BPD symptoms and increased body weight, body dissatisfaction, and self-reported unattractiveness. Furthermore, obese participants were more likely to report BPD symptoms than nonobese controls.

Lastly, Sansone and Sansone (1995) suggest that patients with BPD may be among the most difficult patients a PCP will treat. For example, as part of the diagnostic criteria, these patients engage in unstable interpersonal relationships and therefore may present to primary care for the primary purposes of obtaining emotional support from a PCP they momentarily idealize. However, these patients can quickly switch from idealizing to devaluing relationships with a physician (American Psychiatric Association, 1994, p. 651). For this reason, BPD researchers have recommended that PCP's avoid becoming interpersonally entangled with these individuals (Sansone & Sansone, 1995), possibility out of the realistic concern of litigation.

Secondary Presentation of Borderline Personality Disorder

Patients with BPD engage in various other harmful behaviors that can worsen their physical or psychological health. In their study, Sansone et al. (2000) found that 4.2% of primary care BPD patients intentionally prevented wounds from healing, 20.8% made medical conditions worse, 25% exercised an injury, 41.7% starved themselves, 29.2% abused prescription medication, 83.3% abused alcohol, 41.7% drove recklessly, and 62.5% had sexual encounters with many partners. Given the prevalence of harmful acts, it is not surprising that patients with BPD commonly present to primary care with various physical complaints. Saper and Lake (2002) found a higher prevalence of severe headaches and migraines in BPD patients compared to non-BPD controls. Other somatic complaints such as abdominal pain, cold hands, nausea, vomiting, and diarrhea are common in patients with BPD (BPD Sanctuary, 2004).

BPD patients report high rates of sexual abuse and other traumatic experiences. Sansone, Weiderman, and Sansone (1998) found that 23.3% reported sexual abuse, 39.7% emotional abuse, and 10.3% of patients reported physical neglect. Sansone et al. (2000) found that 79.2% of BPD patients in primary care engaged in emotionally abusive relationships, and 37.5% engaged in sexually abusive relationships. Patients who report traumatic experiences also use higher amount of medical services (Sansone et al., 1998). This is probably because patients who have these experiences report higher rates of sleep problems, anxiety and depressive disorders, irritability, and problems concentrating (American Psychiatric Association, 1994; pg. 428; Sansone et al., 1998).

Complex Presentation of Borderline Personality Disorder

Patients with BPD commonly present to primary care with symptoms of comorbid psychological diagnosis. Gross et al. (2002) investigated the clinical features of BPD in an urban primary care sample and discovered that 21.4% of BPD patients reported symptoms of bipolar disorder, 35.7% reported symptoms of major depression, and 57.1% reported symptoms of an anxiety disorder. Moriya, Miyake, Minakawa, Ikuta, and Nishizono-Maher (1993) found a high prevalence of affective disorders (63%), eating disorders (34%), and substance abuse problems (22%) in female patients diagnosed with BPD. Other common comorbid problems include post-traumatic stress disorder, attention-deficit and hyperactivity-disorder (American Psychiatric Association, 1994, p. 652).

Patients with BPD and comorbid emotional problems display increased psychological distress. For example, Abela, Payne, and Moussaly (2003) investigated the severity of depressive symptoms in patients with BPD and in non-BPD controls. They found that patients with both BPD and depression exhibited an increase in both depressive symptoms and cognitive vulnerability to depression when compared to the control group. In addition, patients with BPD have difficulty adhering to treatment regiments, thereby exacerbating chronic disease states. Accordingly, Palmer, Salcedo, Miller, Winiarski, and Arno (2003) studied a sample of HIV positive patients, and found that a diagnosis of BPD was significantly associated with nonadherence to HIV medications.

Other Axis II clinical problems are prevalent in medical settings. Hueston et al. (1996) found the following prevalence rates of Axis II disorders in a primary care sample: obsessive-compulsive (53%); paranoid (28%); avoidant (26%); schizotypal (25%); narcissistic (24%); and antisocial personality disorder (22%). Their roles in patients' medical help seeking behavior could be examined using the same method.

AXIS III: EXAMPLE: DIABETES MELLITUS

Axis III is used to report any medical conditions that may impact a patient's psychological health. One example is diabetes mellitus, which is a chronic disease characterized by the body's failure to produce or use insulin. Specifically, it is a problem in the metabolism of carbohydrates, fat, and protein, which can lead to problems such as hyperglycemia. There are two primary forms of diabetes mellitus: Type 1 (insulin dependent) and Type 2 (non-insulin dependent). In addition, several secondary forms exist that are caused by: pregnancy, stress, genetics, chemicals, and pancreatic disease (Springhouse Corporation's Pathophysiology, 1998).

According to the American Diabetes Association (2004), approximately 8.7% of persons 20 years or older and 18.3% of persons 60 years and older have diabetes. In addition, 8.7% of men and women 20 years and older have some form of diabetes. Also, 14.5% of Native Americans, 12.5% of whites, 11.4% of Blacks, and 8.2% of Hispanics 20 years and older are estimated to have diabetes.

Primary Presentation of Diabetes Mellitus

Patients with diabetes can present to primary care with various symptoms of diabetes including: increased thirst and hunger, dry mouth, frequent urination, unexplained weight loss, fatigue, blurred vision, and weakness (American Diabetes Association, 2004). In addition, diabetic patients can experience slow-healing wounds, itchy skin, yeast infections, recent weight gain, and changes in the texture and color of skin (WebMDHealth, 2004). Other physical complaints such as shortness of breath, swollen ankles, headaches, heartburn, sweating, wheezing, nocturia, thirst, and GI symptoms are common in patients with type 2 diabetes (Bulpitt, Palmer, Battersby, & Fletcher, 1998; Ko, Chan, Chan, Tsang, & Cockram, 1999).

Secondary Presentation of Diabetes Mellitus

Failure to properly control hyperglycemia can lead to a various diabetes-related complications. Blindness, kidney disease and impairment, and neuropathy can occur from failure to properly manage blood glucose levels (Bell, 2002). Younis, Broadbent, Harding, and Vora (2002) found a 25.3% and 45.7% prevalence of any retinopathy in primary care patients with type 1 and type 2 diabetes respectively. Also, prevalence rates of any retinopathy in patients with either type of diabetes were positively correlated with disease duration. Marin et al. (2002) found a 25% prevalence of kidney impairment in 3,583 primary care patients diagnosed with type 2 diabetes. De Sonnaville, Colly, Wijkel, and Heine (1997) investigated the prevalence of foot ulcers among 609 primary care patients diagnosed with type II diabetes. Results showed that one of every seven diabetic patients presenting to primary care was found to have a foot (or pre-) ulcer. Other physical complications, such as diabetic ketoacidosis (DKA) can occur from failure to manage glycemic control. Neu, Willasch, Ehehalt, Hub, and Ranke (2003) examined the hospital records of 2121 children (below 15 years) diagnosed with type 1 diabetes to estimate the prevalence of DKA in pediatric primary care. They found that 26.3% of diabetic children presenting to primary care suffered from DKA.

Patients with diabetes related complications report a lower quality of life. Ragnarson-Tennvall and Apelqvist (2000) found that diabetic patients with foot ulcers rated their health related quality of life lower than patients whose ulceration had healed. Furthermore, worsened psychosocial well being and increased depression has been found in patients with limb amputations or foot ulcers (Carrington et al., 1996). In addition, hyperglycemia has been linked to increased depression, tension, fatigue, and worsened overall well-being (Van der Does et al., 1996).

Complex Presentation of Diabetes Mellitus

Physical and psychological comorbidities are common among patients with diabetes. Salas, Bubolz, and Caro (2000) examined the prevalence of various physical diseases in 2,003 diabetic patients. The following disease prevalence rates were found: hypertension (72%), arthritis (61%), arteriosclerosis (21%), rheumatoid arthritis (20%), asthma (16%), and angina pectoris (11%). Similarly, Thomas, Jones, Scarinci, and Brantley (2003) found a 36% 12-month prevalence rate of depression and anxiety in a sample of patients diagnosed with type II diabetes. Furthermore, the prevalence of depression and anxiety in patients with type II diabetes was twice that of nondiabetics.

Comorbid psychological problems can negatively impact diabetes self-care, adherence to medication, and ability to engage in appropriate lifestyle changes. Ciechanowski, Katon, and Russo (2000) examined the impact of depression in 367 primary care patients diagnosed with type I and II diabetes on (1) adherence to dietary recommendations, (2) medication treatments, and (3) overall well-being. Patients that displayed high and medium ranges of depression were significantly less compliant with dietary recommendations. Patients with high levels of depression were less compliant with medication regimens, displayed poorer mental and physical functioning, and had a greater likelihood of presenting to emergency, primary, and specialty care. Herpertz et al. (2000) found that 16.6% of participants examined reported experiencing severe psychosocial stress, and furthermore, these patients displayed a worsened ability to manage their diabetes.

Other Axis III clinical problems are prevalent in medical settings. Some common problems include diseases of the circulatory, digestive, and respiratory systems (Hodgson & Cohen, 1999). For example, in one medical setting, respiratory problems (e.g., asthma) were found to account for as much as 17% of the general practice workload (Simpson, Helms, Taylor, & Baxter-Jones, 2000). The impact of psychological

factors and chronic diseases on patients' medical presentations could be examined using the same method.

AXIS IV: EXAMPLE: RELATIONSHIP DIFFICULTIES

The DSM-IV Axis IV encompasses a variety of psychosocial and environment problems that affect the diagnosis, treatment, and prognosis of psychological problems (American Psychiatric Association, 1994, p. 29). One such set of problems, relationship difficulties, are common among patients presenting to primary care. A recent study conducted by Mauksch et al. (2001) explored the marital status of 500 primary care patients and discovered that 32% and 12% of the primary care patients examined were either divorced or separated (or widowed) respectively.

Primary Presentation of Relationship Difficulties

Patients experiencing relationship difficulties can present to medical settings with various complaints. Researchers investigating the link between marital difficulties and sexual dysfunction have found that the married couples with relationship difficulties experience a wide range of sexual dysfunction including impotence and premature ejaculation. Furthermore, when males in these relationships use excessive amount of alcohol, sexual difficulties such as lowered interest in sex, impotence, premature ejaculation, and female painful intercourse occur at a higher rate (O'Farrell, Choquette, Cutter, & Birchler, 1997). Also, verbal and physical abuse is common in couples experiencing relationship difficulties. In their study, Testa and Leonard (2001) reported that 37.3% of couples reported at least one act of male to female physical abuse, with as many as 98.3% of males reportedly committing acts of verbal abuse toward their female partners within the first year of marriage. Not surprisingly, both physical and verbal abuse was associated with lowered marital satisfaction, increased rates of separation and stress.

Secondary Presentation of Relationship Difficulties

Patients experiencing relationship difficulties report worsened psychological and physical health. Specifically, marital problems contribute to elevated levels of stress (Balog et al., 2003; Iacovides et al., 2002), which can lead to increased risk of coronary heart disease morbidity and mortality (Blom, Janszky, Balog, Orth-Gomer, & Wamala, 2003), increased levels of tension, irritability, sleep difficulties, somatic arousal, and increased cortisol levels (Melamed et al., 1999).

Complex Presentation of Relationship Difficulties

Increased rates of anxiety, substance abuse, and depression are observed in couples experiencing relationship problems. Borson et al. (1986) examined the association between marital problems and depression among elderly males presenting to primary care. Findings indicated that self-reported marital separation or divorce were strongly linked to high levels of self-reported depressive symptoms. Similarly, Cano, and O'Leary (2000) investigated the extent to which infidelity and threats of separation (i.e., humiliating marital events or HME's) predicted a major depressive episode. When compared to a control group, participants who experienced an HME were (1) six times more likely to be diagnosed with a major depressive episode and (2) were more likely to report symptoms of anxiety. Heavy alcohol use has been found in relationships where at least one person reports low relationship satisfaction and the presence of physical abuse (Testa & Leonard, 2001). Caetano, Schafer, and Cunradi (2001) found that as many as 40% of men and 37% of women who engaged in domestic violence were drinking at the time of the abusive event. Also, research shows that patients presenting to emergency rooms with violence related injuries and are more likely to report drinking before the harmful event, alcohol dependence, and prior treatment for an alcohol problem. (Cherpitel, 1993).

To illustrate the role of Axis IV clinical problems in medical presentation, we chose to discuss relationship difficulties. However, other Axis IV clinical problems such as sexual abuse, bereavement, job stress, and inadequate health insurance and housing can play important roles in medical presentations and therefore could be evaluated using the same method.

AXIS V: EXAMPLE: LOW GAF

Axis V is provided by the DSM-IV to assess patients' overall level of functioning. The global assessment of functioning (GAF) scale is used to measure

patients psychological, social, and occupational functioning and is rated on a scale of 1–100 (from low to high functioning). GAF measurements are commonly taken at specific time periods such as pre and post treatment (American Psychiatric Association, 1994, p. 30).

Primary Presentation of Low GAF

Patients presenting to medical settings with low GAF (e.g., score of 1–50) can have a variety of unmet psychosocial needs including inadequate housing, problems obtaining food and necessary medical support (e.g., assistance in paying for medication) that contribute to low levels of functioning. For example, homeless or patients with low socioeconomic status (SES) may present to medical settings for shelter, food, and other basic needs. Also, because many homeless patients lack health care insurance and financial support, they may present to medical settings for free or low-cost medical services. Kushel, Vittingghoff, and Haas (2001) found that roughly 25% of homeless patients surveyed reported problems accessing necessary medical services (e.g., medication). In addition, low SES patients are at greater risk for work related injuries (Frumkin, Williamson, Magid, Holmes, and Grisso, 1995) and may therefore seek out medical professionals to obtain disability notes.

Secondary Presentation of Low GAF

Homeless patients display worsened physical health. Weinreb, Goldberg, Bassuk, and Perloff (1998) found that homeless children had higher rates of ear infections, fever, diarrhea, and asthma. High rates of physical problems such as foot fungal infections (38%), bacterial infection of the feet (20.4%), traumatic injuries (19.7%), acne (18.3%), and skin infections (13.3%) have been discovered in one sample of homeless patients (Stratigos et al., 1999). Increased health problems may partially explain the finding that homeless patients use higher rates of emergency and primary care services when compared to nonhomeless controls (Weinreb et al., 1998).

Complex Presentation of Low GAF

Homeless patients suffer from a variety of comorbid psychological problems. In one study, researchers found that one out of five homeless patients using an outpatient medical clinic reported the occurrence of all three of the following comorbidities—physical, psychological, and substance problems (Lundy, 1999). Furthermore, patients that reported depression, anxiety, suicidal ideation or hallucinations were significantly more likely to report all three comorbidities. Acorn (1993) found that as many as 44% of homeless emergency shelter residents reported abusing illicit drugs, 69% reported abusing alcohol, and 19% reported an emotional or psychological problem (e.g., bipolar and schizophrenia). Comorbid psychological problems may be an important factor contributing to some patients low GAF scores and appropriate treatment of these problems may lead to improved functioning.

Other clinical problems such as occupational difficulties and a lack of social support may also contribute to low GAF scores. For example, a lack of social support has been linked to an earlier age of onset in patients suffering from bipolar disorder (Hays, Krishnan, George, & Blazer, 1998). Furthermore, bipolar disorder is one of the more common diagnosis among homeless individuals (Acorn, 1993). Difficulties accessing social support may play an important role in low GAF presentations and therefore could be examined using the same method.

SUMMARY AND IMPLICATIONS

Research has consistently shown that behavioral health problems are related to medical presentations. However, models of the specifics have not been developed. In this paper we have shown some of the specifics of this association. One implication is that PCPs need to have corresponding indices of suspicion about behavioral health drivers. In the primary presentation pathway, PCPs need to reason from physical complaints to possible underlying causal behavioral health problems. For example, multiple injuries, intentional self-harm, and weight problems may be driven by BPD, and thus this causal pathway needs to be recognized and treated as opposed to simply treating the medical symptoms individually. Next, in the secondary presentation, the PCP needs to be able to recognize more indirect indices of underlying behavioral health problems. For example, substance abuse, vehicle accidents, sexually transmitted diseases, and multiple somatic complaints, although not diagnostic criteria for BPD are key associated features and again, need to be recognized as such for the most

effective treatment for the patient. Finally, in the complex presentation, although the patient may be presenting with problems such as parasuicidal behavior, PCPs need to recognize common comorbidities and rule out common comorbid problems such as substance abuse, depression, and eating disorders.

Thus, Hippocrates said that it is more important to know the person who has the problem rather than the problem the person has. This paper suggests that PCPs need to develop skills in quickly understanding the behavioral dynamics, assets and major problems of the patient presenting to them. They need then to form hypotheses about how these personological variables are related to the current medical presentation. Certainly in some cases this information is not very useful. Psychologically healthy individuals develop medical problems and these can be treated with the sole focus on the medical complaints. However, as research has indicated (Katon, 1986; Roy-Byrne et al., 1999), many patients presenting in primary care are coming with significant behavioral health problems that will impact the nature of the presenting complaint, their compliance with treatment, and be related to comorbidities which can further complicate the diagnostic picture. It is only with some understanding of the person that these factors can be uncovered and appropriately dealt with.

We are not suggesting that a comprehensive psychiatric work up be conducted with each primary care patient. Rather, what we are suggesting is that PCPs understand the epidemiology of behavioral health problems and form hypotheses based on some of the details of the medical presentation. For example, given that 57% of males will engage in heavy drinking at some time in their lives (Schmid et al., 2003), male patients complaining of gastritis, headaches, insomnia, and perhaps having a history of injuries due to falls and vehicle accidents should be screened for substance abuse problems. Or given that the lifetime prevalence of major depression in females ranges from 10–25% (American Psychiatric Association, 1994, p. 341), when a female presents with somatic complaints such as increased irritability, problems sleeping, and tearfulness the physician should screen for depression. Other prevalent clinical problems that can lead to medical presentations include (population prevalence in parenthesis) anxiety disorders (13%) (National Institute of Mental Health, 2001), smoking (40%) (SAMHSA, 2002), and obesity (30%) (American Obesity Association, 2004). Finally, quick screening assessments such as the beck depression inventory (BDI), Zung depression rating scale, CAGE, and alcohol use disorders identification test (AUDIT) can be given to patients in waiting rooms and are easily scored.

A further implication is that patients who do not normally respond to treatment or who are high medical utilizers (O'Donohue & Cucciare, 2004; in review) should be considered as candidates for possible referral to behavioral health professionals to rule in or rule out behavioral health problems. Cummings, Cummings, and Johnson (1997) have shown that high medical utilizers often have problems with depression, treatment adherence, substance abuse, social support, and engaging in a healthy lifestyle.

As a gatekeeper to specialty care we are not suggesting that the PCPs need to be competent in a full armamentarium of psychological and psychiatric assessment strategies. But it would be useful if a PCP could ask some general questions about the person to discover strengths and problems as well as to roughly assess the DSM-IV criteria for some of the more common psychological disorders. For example, a PCP could ask a patient suspected of having depression the following questions: have you been feeling sad lately?; have you had any problems sleeping over the last two weeks?; and have you felt confused and/or irritable over the last two weeks?.

Thus, a part of the gate-keeping role is to be able to do a quick preliminary interview to see if there is enough concern present for a referral for a more comprehensive diagnostic work up.

For these reasons, integrated care or a collocated system of health care has many clinical advantages. For example, an integrated health care system can provide a process for diagnosing and treating patients with a wide variety of psychological problems and permits the PCP and the patient easy access to a behavioral care provider. Without the integrated system, PCPs often refer patients to providers that are offsite, which can result in patients failing to contact the referred provider for various reasons.

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