Clinical Indicators of Psychopathology

Ingrid Vargas Huicochea, MS and Jorge Caraveo Anduaga, Ph.D.

Background

Psychiatric disorders affect up to one third of patients with non-psychiatric diseases.[1-5] Nevertheless, despite the high prevalence of psychopathology in general medical patients, only between 30-50% of all cases are detected.[2,6-8] Some have suggested that the difficulty in the detection and diagnosis of mental disorders among patients who seek medical attention for other reasons, lies in the lack of screening questions that might alert the physician to the possibility of a psychiatric co-morbidity.[9] Such questions would identify medical patients at high risk of psychiatric problems.

Previous work has identified the following clinical predictors of psychopathology: specific physical symptoms[10-11]; patient report of severity of illness[11]; recent stress[12,13]; low self-perception of health status[13]; and age less than 50.[14] Two specific studies on the detection of psychopathology in the general medical population are worth highlighting. The first, by Jackson and his research team[13] updated a 2001 study evaluating a prediction model with four parameters (recent stress, severity of physical symptoms, five or more specific symptoms, self-assessment of physical condition). They found that those patients who report recent stress, have five or more physical symptoms or a low self-perception of their health state are at a higher risk of having a psychiatric disorder. The second study, by Lowe *et al.* published in 2003,[9] examines a series of factors that could serve as indicators of psychopathology in ambulatory medical (i.e. non-psychiatric) patients. After evaluating several different models they found

Ingrid Vargas Huicochea. Psychiatrist. M.Sc. in Health Sciences; Department of Medical Psychology, Psychiatry and Mental Health, School of Medicine. National University of Mexico (UNAM).
E- mail: ivargashuicochea@gmail.com

Jorge Caraveo Anduaga Psychiatrist, Ph.D. in Health Sciences; National Institute of Psychiatry "Ramón de la Fuente", Division of Epidemiological and Psychosocial Research, México. Email: caraveoj@imp.edu.mx

that the combination of four of factors (taken as a group) had a high sensitivity (86%), specificity (100%), positive predictive value (100%), and negative predictive value (91%). This suggests that a physician could use the combination of these four indicators to evaluate for the presence of co-morbid mental disorders. These factors are: self-reported tension/anxiety/stress present at least 14 days of the past four weeks, a sensation of sadness/despair at least 14 days of the past two weeks, three or more physical symptoms, and relationships troubles.

This study sought to identify clinical characteristics associated with psychopathology in a sample of Mexico City's general population. Our goal was to find predictors that would assist in the detection of mental health problems among non-psychiatric patients.

Methodology

This study is based on a secondary analysis of data gathered in a previous epidemiological survey.[15] The target population for the survey included all persons between 18 and 64 years of age who lived in any of the 16 political subdivisions of Mexico City (translator's note: *delegaciones*). A multi-stage, cluster sampling technique was used; in the last stage one adult from each selected home was surveyed. A wide range of information was collected including history of specific psychiatric disorders (both lifetime and in the prior 12 months); history of serious medical illness (lifetime and prior 12 months); self-perception of health status, and the impact of health status on the subject's performance during the previous week. The survey included diverse other psychosocial variables.

The epidemiological instrument used in the survey was modified and adapted from the Composite International Diagnosis Interview (CIDI version 1.1). It has thirteen sections (six clinical sections on mental health evaluation and seven non-clinical sections evaluating general information, physical health problems, and other information).

Variables associated with affective disorders (current)			
Indicators	**Odds Ratio**	***p***	**IC 95%**
Recent physical pain	1.73	0.001	2.30-15.32
Heart attack within previous 12 months	5.88	0.009	1.61-21.40
Poor marital relationship	1.73	0.019	1.10-2.73
Susto[a]	3.40	0.028	1.15-9.99
Variables associated with Anxiety Disorders (current)			
Susto	10.6	< .001	3.86-29.18
Recent physical pain	4.75	< .001	2.30-9.80
Three or more physical ailments	3.75	0.001	1.82-7.69
Employment	0.60	0.003	0.44-0.82
Poor self-assessment of mental health	6.47	0.007	1.72-23.68
Age < 50 years	2.15	0.032	1.07-4.30
Variables associated with substance abuse/dependence disorders (current)			
Heart attack within previous 12 months	10.00	< .001	3.10-32.25
Recent physical pain	3.46	.001	1.75-3.82
Empacho	3.85	.025	1.20-12.29
Susto	8.49	0.028	1.29-55.88

.

The database created during the survey was analyzed using STATA software. Several logistic regression models were developed in which the dependent variable was the presence of identified mental disorders currently or in the previous 12 months. The predictor variables were chosen from those known to influence the development of psychopathology: presence of medical illness (rheumatologic conditions; respiratory illness; AIDS; visual or hearing impediments; hypertension; diabetes; heart attack; severe hernias; renal or hepatic disease; autoimmune disorders; neurological, digestive, and biliary problems; ulcers; "*mal de ojo*"; "*susto*"; "*empacho;*" other medical illness);[a] physical pain in the prior week; the sum of three or more physical ailments; unemployment; relationship problems; negative self-assessment of health status (mental and physical); and age under 50 years.

[a] "*Mal de ojo*", "*susto*" and "*empacho*" are considered cultural syndromes specific to Mexican sociocultural epidemiology. "*Mal de ojo*" is a disease caused by being stared at, generally secondary to jealousy; its symptoms are vomiting, diarrhea, crying, and restlessness; it is the condition most commonly seen by traditional healers.[20] "*Susto*" presents with symptoms of agitation, lack of appetite, sleeping problems, fever, diarrhea, mental confusion, lack of energy, depression, anxiety, and stress. It is attributed to the loss of a psychological entity located in the head. "*Empacho*" affects mainly children and is characterized by indigestion or mal-digestion due to stasis of food that is not eliminated by either vomiting or defecation.[30]

Results

The data base had a total of 1,933 respondents: 55% female (n=1062) and 45% male (n=871). The average age was 36 years, with a standard deviation of 12.0. During the previous 12 months 3.2% of the sample reported affective disorders (n=72), 8.02% experienced anxiety (n=155) and 3.5% reported dependence on psychoactive drugs (n=59).

Within logistic regression models, the following indicators were found to be significant (p <= 0.05):

1. Indicators with a statistically significant association to current affective disorders were: recent physical pain, a heart attack within the last year, relationship problems with partner, and "*susto*" (Table). The presence of recent physical pain increases the probability of affective disorders by 1.73; recent heart attack or "*susto*" increases this probability by 5.88 and 3.40 respectively; marital problems were associated with an increase of 1.73.

2. The presence of anxiety disorders in the preceding 12 months was associated with: "*susto*", recent physical pain, three or more physical disorders, poor self-assessment of mental health, and age less than 50 years; employment had a protective effect. (Table) "*Susto*" is associated with a 10.62 fold increased probability of suffering anxiety, while physical pain confers a 4.75 increased probability. The presence of three or more physical ailments is associated with a 3.75 increased probability and employment reduced the odds ratio by 40%.

Lastly, a self-report of poor mental health and age less than 50 increased risk by 6.47 and 2.15, respectively.

3. Current dependency on psychoactive drugs is associated with heart attacks, recent physical pain, *empacho* and *susto*. (Table) A heart attack within the previous 12 months increases the risk of substance abuse/ dependence disorders nine fold. Recent physical pain increases the risk of substance abuse/ dependence disorders by 3.46. Reports of "*empacho*" and "*susto*" also increase substance abuse/dependence disorders in comparison to those subjects without these syndromes (3.85 and 8.49 times respectively).

Discussion

The prevalence of psychiatric disorders in our sample – disorders reported by respondents in the previous 12 months – is very similar to that reported by the National Survey of Psychiatric Epidemiology[21] where anxiety disorders were the most common (8.1%), followed by affective disorders (4.5%) and substance abuse/dependence disorders (3.5%).

We found consistent statistical associations between both recent physical pain and "*susto*" and three classes of psychiatric disorders: anxiety, affective and substance abuse/dependence disorders.

With respect to *susto* in particular, questions arise regarding temporality. Did the appearance of *susto* cause the subsequent development of anxiety? Or did they occur simultaneously? Are they, perhaps, two manifestations of the same entity which are given different names depending upon the social and cultural context of the patient? We found no literature addressing these questions. It would be necessary to study carefully the subjective experience of the individual who suffers from *susto* and examine how this experience affects their emotional state. This would allow a better understanding of this important association.

Recent physical pain was also significantly associated with the three groups of psychopathology we studied. It doubles the risk of emotional distress, quintuples the risk of anxiety disorders, and quadruples the risk of substance abuse/dependence disorders. It should be noted that pain is one of the major causes for disability throughout the world and represents a complex phenomenon that entails biological, emotional, and social factors.[16]

The link between psychopathology and pain has been well studied. Nevertheless, it is often difficult to establish the temporal relationship between the two. Usually, pain is seen as a sequel to the prior presence of psychopathology; the most well studied case has been that of physical pain and depressive symptoms.[16-19]. A diathesis-distress mode has been accepted linking *chronic* physical pain with multiple and interrelated psychological reactions, typically affective.[17-19] Anxiety disorders can also present with vague chronic pains. We can not ignore the risk of using and abusing psychoactive substances as a means of mitigating the suffering associated with pain (especially when physical pain has become chronic).

In this study the association was based on "recent physical pain" (specifically, pain experienced during the prior week). This raises a number of questions and suggests that there may well have been some underlying disorder that caused the acute pain due to associated limitations and disabilities. Because this survey did not specifically address chronic pain, we can only emphasize the high probability of finding physical pain associated with psychiatric conditions, be they affective, anxiety-related, or due to dependency on psychoactive substances. However, it is not now possible to establish a clear causal relationship.

A relationship between pain and psychopathology exists and challenges us to understand the pathophysiology underlying the association. It is a complex challenge due to the unquestionable presence of two conditions – physical pain and psychopathology – both causing human suffering and both requiring knowledge and attention from those of us who are health providers (or health seekers).

A negative self-assessment of mental health is significantly associated with a risk of developing anxiety disorders. This association has been previously described in a group that was seeking medical care in an ambulatory center.[13] This study was, however, limited because it examined a history of psychiatric disorders and this makes it difficult to establish the temporal relationship between the current negative self-assessment and these prior disorders. It is important to remember that anxiety is a feeling of unease and irritability that is accompanied by multiple somatic symptoms. These might have an impact how someone evaluates their mental health.

Indeed having three or more medical conditions is highly associated with anxiety disorders, a finding previously documented in the in a study of easily obtained clinical indicators for the presence of psychopathology in the

ambulatory medical population.[9] However, the presence of three or more disturbances was only one of several criteria in the model proposed by the researchers and was not an isolated factor. The association between multiple medical illnesses and anxiety is understandable if we consider that a person facing the consequences of three or more non-psychiatric illnesses at one time would potentially experience negative repercussions on their wellbeing and everyday functioning; this situation would likely provoke anxiety, one of the responses to important stressors. A fuller understanding of what types of diseases had been diagnosed and their temporal evolution.

The association between "heart attacks" and both affective and anxiety disorders again challenges us to determine temporal relations. Between 15 to 65% of those who have suffered an acute heart attack develop mental disturbances, most commonly affective problems.[22,23] Depression itself has been identified as a risk factor for cardiovascular disorders – including acute heart attacks – even in healthy populations.[24,25] Various explanations for the role of depression in cardiovascular disease have been offered ranging from psycho-neuro-endocrine-immune dysregulation to alterations in lifestyles factors such as physical activity, food intake, and level of psychosocial stressors. Thus, the relationship found in this study between heart attacks and the presence of emotional and anxiety disorders is consistent with the existing world literature.

Finally, we found potential indicators for specific mental health problems: poor marital relationships associated with affective disorders and employment seemed to protect against anxiety disorders: this suggests that unemployment may be associated with an increased risk for anxiety disorders. Social factors have an important influence on mental health of individuals[26] especially when they touch on key aspects of wellbeing. Having a job is a sign of being an adult and leading a productive life. Loss of a job has implications for the social role of the individual as well and his or her economic situation. Both of these play a central role in the emotional life of any individual.[26-28] Specific life events, such as a relationship gone bad, may be an important triggers for the development of mental health problems. They involve making and carrying out decisions that require a high level of psychological adaptability.[29]

Conclusions

Recognition of clinical factors that may be associated to a higher risk of psychopathology may help health professionals to be aware of – and sensitive to – their patients' experience of illness. It may allow the detection of symptoms related to mental illness, facilitating proper treatment and referral. This would limit further psychological deterioration and guarantee a better evolution for those who seek and trust the attention given by health professionals.

Our study suggests that clinicians should be alert to either a predisposition to psychiatric diseases or even frank psychiatric illness when a patient during a general medical consult complains of recent constant physical pain or provides a background of symptoms consistent with the social syndrome of *susto*. Likewise, when a patient has a history of heart attack, a set of more than three medical conditions, "*empacho*", a recent loss of work, relationship problems with a partner or negative health self-perception, a psycho-pathological disorder should be suspected.

This is a preliminary study whose findings should be explored in greater detail. This analysis is only a first step to the recognition and understanding of the clinical phenomena that are embedded in psychiatric pathologies.

References

1. Ormel J, VonKorff M, Uston TB, Pini S, Korten A, Oldehinkel T. Common mental disorders and disability across cultures: results from the WHO Collaborative Study on Psychological Problems in General Health Care. JAMA. 1994; 272: 1741-1748.
2. Spitzer RL, Williams JBW, Kroenke K, et al. Utility of a new procedure for diagnosing mental disorders in primary care: the PRIME-MD 1000 study. JAMA. 1994; 272:1749-1756.
3. Kroenke K, Jackson JL, Chamberlin J. Depressive and anxiety disorders in patients presenting with physical complaints. Am J Med. 1997; 103:339-347.
4. Barrett JE, Barrett JA, Oxman TE, Gerber PD. The prevalence of psychiatric disorders in primary care. Arch Gen Psychiatry. 1988; 45:1100-1106.
5. Philbrick JT, Connelly JE, Wofford AB. The prevalence of mental disorders in rural office practice. J Gen Intern Med. 1996; 11:9-15.
6. Meyer T, Klemme H, Hermann C. Depression but not anxiety is a significant predictor of physicians' assessments of medical status in physically ill patients. Psychother Psychosom 2000; 69: 147-154.
7. Zimmerman M, Mattia J. Psychiatric diagnosis in clinical practice: is comorbidity being missed? Compr Psychiatry 1999; 40: 182-191.

8. Jorgensen P. Mental disorders among internal medical inpatients: prevalence, detection and treatment status. J Psychosom Res 2001; 50: 199-204.

9. Löwe B, Grafe K, Kroenke K, Zipfel S, Quenter A, Wild B, Fiehn C, Herzog W. Predictors of psychiatric comorbidity in medical outpatients. Psychosomatic Med 2003; 65: 764-770.

10. Kroenke K, Price RK. Symptoms in the community: prevalence, classification and psychiatric comorbidity. Arch Intern Med 1993; 153: 2474-2480.

11. Jackson JL, O'Malley PG, Kroenke K. Clinical predictors of mental disorders among medical outpatients: validation of the "S4" model. Psychosomatics 1998; 39: 431-436.

12. Kroenke K, Jackson JL, Chamberlin J. Depressive and anxiety disorders in patients presenting with physical complaints: clinical predictors and outcome. Am J Med 1997; 103: 339-347.

13. Jackson JL, Houston JS, Hanling SR, Terhaar KA, Yun JS. Clinical predictors of mental disorders among medical outpatients. Arch Intern Med 2001; 161: 875-879.

14. Spitzer RL, Williams JB, Kroenke K, Homvak R, McMurray J. Validity and utility of the PRIME-MD patient health questionnaire in assessmen of 300 obstetric-gynecologic patients: the PRIME-MD Patient Health Questionnaire Obstetrics-Gynecology Study. Am J Obstet Gynecol 2000; 183: 759-769.

15. Caraveo J, Martínez N, Rivera B. Un modelo para los estudios epidemiológicos sobre la salud mental y la morbilidad psiquiátrica. Salud Mental 1998; 21: 48-57.

16. Gureje O. Psychiatric aspects of pain. Curr Opin Psychiatry 2007; 20: 42-46.

17. Fishbain DA, Cutler R, Rosomoff HL, Rosomoff RS. Chronic pain-associated depression: antecedent or consequence of chronic pain? A review. Clin J Pain 1997; 13: 116-137.

18. Carroll L, Cassidy J, Cole P. Depression as a rick factor for onset of an episode of troublesome neck and low back pain. Pain 2004; 107: 134-139.

19. Banks SM, Kerns RD. Explaining high rates of depression in chronic pain: a diathesis-stress framework. Psychol Bull 1996; 119: 95-110.

20. Villaseñor Bayardo S. Apuntes para una etnopsiquiatría mexicana. Guadalajara: Editorial Universidad de Guadalajara, 2008: pp. 60-62.

21. Medina-Mora ME, *et al.* Prevalencia de trastornos mentales y uso de servicios: resultados de la encuesta nacional de epidemiología psiquiátrica en México. Salud Mental 2003; 26: 1-16.

22. Thombs BD, *et al*. Prevalence of depression in survivors of acute myocardial infaction. J Gen Intern Med 2006; 21: 30-38.

23. Lett H, Ali S, Whooley M. Depression and cardiac function in patients with stable coronary heart disease: findings from the Heart and Soul Study. Psychosom/Med 2008; 70: 444-449.

24. Whooley MA. Depression and cardiovascular disease: healing the broken-hearted. JAMA 2006; 295: 2874-2881.

25. Lett HS, *et al*. Depression as a risk factor for coronary artery disease: evidence, mechanisms, and treatment. Psychosom Med 2004; 66: 305-315.

26. Korkelila J, *et al*. Establishing a set of mental health indicators for Europe. Scand J Public Health 2003; 31: 451-459.

27. Martikainen P, Adda J, Ferrie JE, Davey Smith G, Marmot J. Effects of income and wealth of GHQ depression and poor selfrated health in with collar women and men in the Whitehall II study. J Epidemiol Community Health 2003; 57: 18-23.

28. Ferrie JE, Shipley MJ, Stansfield A, Marmot MG. Effects of chronic job insecurity and change in job insecurity on self-reported health, minor psychiatry morbidity, physiological measures, and health related behaviours in British civil servants: the Whitehall II study. J Epidemiol Community Health 2002; 56: 450-454.

29. Molarious A, *et al*. Mental health symptoms in relation to socio-economic conditions and lifestyle factors – a population-base study in Sweden. BMC Public Health 2009; 9: 302-310.

30 Campos Navarro R. ¿Existe el empacho en Cuba? Textos históricos y etnográficos (1821-2004). MEDISAN 2004; 8: 4-12Campos Navarro R. ¿Existe el empacho en Cuba? Textos históricos y etnográficos (1821-2004). MEDISAN 2004; 8: 4-12

Visit our blog @ www.socialmedicine.org