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Mental health literacy in bipolar disorder: Association with perception of aggressiveness and gender of medical students

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Original article

SUMMARY

Introduction
Developing mental health literacy (MHL) in students and health professionals implies gaining abilities in recognizing and treating properly mental illnesses. This is an important issue due that it helps reducing stigma and the treatment gap found in patients with bipolar disorder (BPD).

Objective
To determine the associations between some variables of MHL (recognition, attributable causes and suggested treatment) about BPD with gender and perception of aggressiveness in a group of medical students.

Materials and Methods
One-hundred and three medical undergraduates from a public university in Mexico City completed the Aggressiveness Public Concept Questionnaire (CPA, in Spanish) to assess MHL and aggressiveness perception.

Results
59.6% of students did not recognize the presence of a mental illness. As symptoms were not considered as a manifestation of a mental disorder, 83.7% considered non-psychiatric/non-restrictive interventions as the most adequate alternative for the management of the behaviors exposed in the clinical vignette. 87.7% considered that the person described in the vignette was aggressive and 33.7% perceived the subject as dangerous.

Discussion
MHL campaigns for medical students must focus on improving recognition of the essential features of BPD, of treatment options as well as of the real prevalence and prevention methods of aggressiveness of these patients.

Key Words: Mental health literacy, bipolar disorder, stigma, aggressiveness, dangerousness, gender.

RESUMEN

Introducción
La alfabetización en salud sental (ASM) por parte de estudiantes y profesionales de la salud implica su capacidad para reconocer la enfermedad mental y su adecuado manejo, y constituye un elemento esencial para reducir el estigma y la brecha de tratamiento de los pacientes con trastorno bipolar (TBP).

Objetivo
Determinar la asociación entre algunas variables de la ASM (reconocimiento, causas atribuibles y tratamiento sugerido) para el TBP con el género y la percepción de agresividad en un grupo de estudiantes de medicina.

Material y métodos
Ciento tres estudiantes de pregrado de la carrera de Medicina de una Universidad pública de la Ciudad de México completaron el Cuestionario de Concepto Público de Agresividad (CPA) para valorar la ASM y la percepción de agresividad/peligrosidad.

Resultados
El 59.6% de los estudiantes no reconocieron la presencia de una enfermedad mental. Al no considerar los síntomas como la manifestación de una enfermedad mental, el 83.7% sugirió intervenciones no psiquiátricas/no restrictivas para el manejo adecuado de las conductas expuestas en la viñeta clínica. El 87.7% de los estudiantes consideró que la persona descrita era agresiva y el 33.7% la percibió como peligrosa.

Discusión
Las campañas de ASM para estudiantes de medicina deben abocarse a incrementar el conocimiento de las características esenciales del TBP, las opciones de tratamiento así como la prevalencia real y métodos de prevención de la agresividad en estos pacientes.

Palabras clave: Alfabetización en salud mental, trastorno bipolar, estigma, agresividad, peligrosidad, género.

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INTRODUCTION

Stigma effects towards the illness and the mentally ill are widely documented. Among such effects stands out the lack of an appropriate treatment improving the quality of life of those who suffer from a psychiatric disorder.[1,2]

Several interventions have been generated that seek to avoid stigma towards mental illness. One of them is called Mental Health Literacy (MHL), which refers to the knowledge and beliefs about mental disorders. The MHL focuses on these factors for the reduction of stigma putting forward that, through MHL, there may be recognition, treatment and prevention of the psychopathological disorders.[3]

Notwithstanding the relevance of these aspects —both globally and nationally— there are difficulties for the population to properly acknowledge and/or treat persons with psychiatric conditions, especially with serious and persistent disorders such as bipolar disorder (BPD).[3-6]

The medical personnel's scarce knowledge on mental disorders is a concern due to the potential this group has in order to properly and timely identify and treat patients, with the purpose of improving their functioning and quality of life.[7]

Therefore, among the target groups of interventions to increase the MHL and reduce the stigma towards persons with mental disabilities are health professionals (including students).[8]

In this regard it has been described that medical undergraduates tend to present more stigmatizing attitudes towards psychiatric patients,[9,10] than graduates.

An effective campaign against stigma should be aimed at those variables that have proved having any influence on the MHL, such as gender, causes attributable to the illness and the perception of the patient's aggressiveness/dangerousness.

The purpose of this study was to determine the associations between some variables of MHL (recognition, attributable causes and suggested treatment) about BPD with gender and perception of aggressiveness in a group of medical students. Key hypotheses were: 1. There were no significant differences between men and women in acknowledging the BPD as a mental illness and about its control through psychiatric interventions. 2. Men shall recognize more frequently the biological causes of the disease than women and 3. Women shall have a better perception of aggressiveness y dangerousness, in contrast with men.

METHOD

Participants

104 first-year students of the medical degree of a public university in Mexico City were included. 68.3% (n=71) of the sample was made up by men and the remaining 31.7% (n=33) by women, with an average age of 18.8 years old (SD=1.9 years).

This research was approved by the Ethics & Research Committees of the Ramón de la Fuente Muñiz National Institute of Psychiatry. All students accepted to participate voluntarily and anonymously after the research purposes were explained.

Instruments

The Aggressiveness Public Concept Questionnaire (CPA)[11] was used to assess the mental health literacy (MHL) as well as the aggressiveness and dangerousness perception. The original version of the CPA includes a clinical vignette of a patient with paranoid schizophrenia. This study included a vignette of a patient with BPD pursuant to the diagnostic criteria from the DSM-IV, which was revised and approved by all authors.

The use of vignette has shown appropriate results in the assessment of variables associated to MHL.[12] With the purpose of avoiding any slant caused by the presentation of a male or female patient[13] the vignette was amended for the preparation of this study, to read as follows:

> «*It is about a 22 year person who lives with his parents. Since adolescence, he has been a top-notch athlete, with good grades, sociable and always looking for challenges. Occasionally, he experiences passing periods with low moods and lack of energy, which he considers that do not affect his performance. He is studying the last semesters of architecture and recently the academic pressure has increased. For the last three weeks his parents and friends have noticed he speaks very fast, that he is irritable, skips classes and fails delivering homework. Some of his schoolmates have said: "something is happening with his behavior. He acts foolishly and says nonsense things". Their parents were amazed because he never caused problems, but two nights before he drove his mother's car without permission and returned it with a bump he could not explain. In addition, he has not slept in four days and he scarcely eats; they say that "he has changed completely. He's not like that. We don't know what happened to him!". This person says that he is safe, that he feels better than ever, that if he skips classes is because he does not need them and they are too boring, that he could teach the teachers. He even mentions that he was called from the United States in order to give a course.*»

The vignette in the back had some questions to assess the aggressiveness and dangerousness perception (PAP, in Spanish) and some variables related to the MHL: recognition of the disease, attributable causes and suggested treatment.

For assessing the PAP the CPA includes four questions adapted from the Overt Aggression Scale[14,15] that value the perception of verbal aggression, self-directed aggression, aggression towards objects and hetero-directed aggression; as well as the following question to assess the dangerousness perception: "I consider that he is a dangerous person for society" based on a Likert-type scale (strongly disagree-strongly agree). The questions were dichotomized in "present" or "absent" for comparison purposes.

Finally there are questions intended for assessing whether the student considers or not that the patient de-

scribed in the vignette suffers from any mental illness, the causes originating the symptoms (being able to choose all options judged appropriate) and the students' perception on the most appropriate intervention for its control, according to the restriction level of the measure: 1. by himself, without anybody's intervention; 2. non-psychiatric and non-restrictive interventions (i.e., without help, chatting); 3. psychiatric interventions (i.e., use of oral medications, injections or hospitalization) and 4. restrictive interventions (i.e., tying the person up, healthcare different from injuries).

Statistical analysis

The description of the variables was made with frequencies and percentages in the case of categorical variables; and with means and standard deviations (SD) for continuous variables. The chi-squared (χ^2) test was used as hypotheses tests for comparing between men and women. In order to determine the linear association between MHL variables and the aggressiveness and dangerousness perception the Spearman's correlation coefficient was used. For this analysis the CPA's ordinal punctuations were utilized. The statistical significance level was fixed with a $p \leq 0.05$. The data analysis was prepared through the SPSS package, version 17.0.

RESULTS

a) Recognition of the disease, attributable causes and suggested treatment

Less than 50% of participants recognized the presence of a mental disease in the clinical vignette (n=42, 40.4%). Combined with this result, most of the students (n=87, 83.7%) suggested non-psychiatric/non-restrictive interventions (i.e., talk to the subject, watch him) as the most appropriate for the control of the described symptoms, followed by the 12.5% (n=13) who considered appropriate psychiatric interventions (i.e., medication, hospitalization) and 3.8% (n=4) who would not use any type of intervention (i.e., he settles alone). None of the students suggested the use of restrictive interventions (i.e., isolation, tying up, medical injury treatment) for the control of the symptoms.

In the assessment of the possible causes of symptoms, the psychological etiology (n=82, 78.8%) and the biopsychosocial attribution (n=79, 76.7%) were the most frequently referred causes, followed by the medical etiology (n=37, 35.6%), family problems (n=29, 27.9%) and weakness of character (n=28, 26.9%).

No differences were observed between male and female medical students neither regarding the recognition of illness nor regarding the suggested treatment. However, there is a trend in men of considering more frequently a psy-

Table 1. Recognition of the disease, attributable causes and suggested treatment by gender

	Men (n=71)		Women (n=33)		
	n	%	n	%	Statistical comparison
Recognition of the Mental Disease					
• Without recognition	42	59.2	20	60.6	x^2=0.02, 1 gl, p=0.88
• With recognition	29	40.8	13	39.4	
Causes attributable to the symptoms					
• Weakness of character					
No	50	70.4	26	78.8	x^2=0.80, 1 gl, p=0.37
Yes	21	29.6	7	21.2	
• Family problems					
No	51	71.8	24	72.7	x^2=0.009, 1 gl, p=0.92
Yes	20	28.2	9	27.3	
• Medical problem					
No	42	59.2	25	75.8	x^2=2.70, 1 gl, p=0.10
Yes	29	40.8	8	24.2	
• Psychological problem					
No	12	16.9	10	30.3	x^2=2.42, 1 gl, p=0.11
Yes	59	83.1	23	69.7	
• Biopsychosocial problem					
No	**19**	**26.8**	**5**	**15.6**	x^2=1.53, 1 gl, p=0.21
Yes	**52**	**73.2**	**27**	**84.4**	
Suggested intervention for symptom control					
• Without intervention	3	4.2	1	3.0	
• Non-psychiatric	59	83.1	28	84.8	x^2=0.09, 2 gl, p=0.95
• Psychiatric	9	12.7	4	12.1	

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Table 2. Aggressiveness and dangerousness perception by gender

	Men (n=71)		Women (n=33)		Statistical comparison
	n	%	n	%	
Verbal aggression					
• Absent	31	43.7	11	33.3	x^2=0.99, 1gl, p=0.31
• Present	40	56.3	22	66.7	
Self-directed aggression					
• Absent	48	67.6	25	75.8	x^2=0.71, 1gl, p=0.39
• Present	23	32.4	8	24.2	
Aggression towards objects					
• Absent	24	34.3	6	18.2	x^2=2.81, 1gl, p=0.09
• Present	46	65.7	27	81.8	
Aggression towards persons					
• Absent	37	52.1	17	51.5	x^2=0.003, 1gl, p=0.95
• Present	34	47.9	16	48.5	
Global perception of aggression					
• Absent	13	18.3	4	12.1	x^2=0.63, 1gl, p=0.42
• Present	58	81.7	29	87.9	
Dangerousness perception					
• Absent	47	66.2	22	66.7	x^2=0.002, 1gl, p=0.96
• Present	24	33.8	11	33.3	

chological and medical etiology of the symptoms compared to women (Table 1).

b) Aggressiveness and dangerousness perception (PAP)

Although the clinical vignette used does not refer to specific aggressive behaviors, 83.7% (n=87) of students considered that the person described was aggressive. Aggression towards objects (n=74, 71.2%) and verbal aggression (n=62, 59.6%) were the behaviors most frequently considered, followed by aggression towards persons (n=50, 48.1%) and self-directed aggression (n=31, 29.8%). Contrary to the aggression perception, only 33.7% (n=35) graded the person described in the vignette as dangerous for society. Similar percentages were observed between men and women in the aggressiveness and dangerousness perception. There was only a trend of a higher percentage of women who considered the presence of aggression towards objects (Table 2).

92.3% (n=96) of students answered that the described person is a man, while the remaining 7.7% (n=8) a woman. There were no age or gender differences between male and female students (p=0.71) as for the gender attributed to the person described in the vignette.

c) Association of the mental health literacy and the aggressiveness and/or danger perception

In the case of female students the recognition of the mental disease was directly associated with the perception that the described person was aggressive (r=0.37, p=0.03) and dangerous for society (r=0.54, p=0.001). A similar association was observed in the case of male students, in whom the recognition of the mental disease was related to the conviction that the person described in the vignette was dangerous (r=0.25, p=0.03).

The restriction level of the suggested treatment (i.e., without intervention *vs*. dialogue *vs*. medications or psychiatric hospitalization) was neither associated with aggression nor dangerousness perception in none of the groups. Nevertheless, women who suggested a higher restriction level (psychiatric interventions) showed a higher recognition of the mental disease (r=0.35, p=0.04), but this was not observed in men (p=0.40).

The causes attributable to the symptoms were not associated with the aggression or danger perception in men (p>0.05). Regarding women, the medical attribution of the symptoms showed a direct linear association with the danger perception (r=0.46, p=0.007).

DISCUSSION

In order to contribute with the identification of key aspects to be included in the MHL and anti-stigma campaigns in medical students, this paper assessed the relationship among recognition, attributable causes and suggested treatment, with the gender and the aggressiveness/dangerousness perception.

Thus, the data of this research prove the need of increasing the MHL efforts on the medical undergraduates, especially with regard to the typical BPD symptoms and the existing methods of psychiatric treatment for handling this disease. We acknowledge the difficulty to establish an accurate diagnosis of BPD[16-18] (though this was not the purpose of the study). However, we found that fewer than half the participants even suspected that it was a psychopathological disorder. Despite that a high percentage attributed the vignette's description to a psychological cause or to a combination of biopsychosocial factors, this was neither sufficient to consider that the person suffered from any mental disease or, even, that he could need specialized treatment. As for the causes to which the BPD symptoms are attributed, these findings agree with different studies reporting that since the diagnostic label involves a certain degree of stigma, the symptoms that suggest an affective disorder (depression or BPD) are not actually considered a pathology, and are only recognized as alterations of the ways of being or of behavior (thus called "psychological"). Often the foregoing causes that the need of a therapeutic intervention is not noticed and, even less, of a specialized treatment.[19-21]

This research on the BPD perception in medical students (future health care providers) is a clear sign of the

ignorance regarding the characteristics of the psychopathology and the way to attack it. According to the aforementioned aspects of this article, if this affective disorder is not seen as a disease then a treatment is not sought either (or at least not at the proper time). This factor may explain in part the delay in specialized care of the BPD observed in Mexico. The gap for this disorder attention is approximately 10 years,[22,23] resulting in consequences with expensive individual and social costs. In order to reduce this gap it shall be necessary to disclose, as part of the medical training, the available services and treatments as well as the behavioral manifestations of the disease at environments in every-day life, and not only the theoretical aspects concerning its definition and etiology.

On the other hand, a high percentage of students reported perceiving the patient with bipolar disorder as aggressive and, to a lesser extent, dangerous to society. Some authors have stated that describing the patient in the vignettes as a "male subject" may be a limiting factor, because women may consider this as a more frightening situation, not because of the mental disease *per se*, but because of the gender condition. The foregoing has lead authors to question the evidence about the highest women perception of aggression/danger of patients with mental disorders.13 In this study said limitation was solved using a clinical vignette that does not specify gender for any patient; thus, no differences were found between men and women regarding the gender attributed to the person described or as for the aggression or dangerousness perception they would give such person considering the gender.

The aggression/danger perception has been closely linked to discriminatory attitudes that involve additional obstacles to the treatment search, limiting the rehabilitation chances of patients, which originates, in turn, higher social stigma, thus closing a vicious circle.[8]

Therefore, the campaigns must also include objective information about the real prevalence and prevention and control methods of the aggression in patients with BPD.[17,24]

Nevertheless, a very important aspect that has to be emphasized is the existing association between the mental disease and the dangerousness perception reported by the community. This relationship is not only observed in medical students nor is exclusive of the BPD. Such association has been described within the general population and with other serious mental disorders. Efforts should not only be aimed at reducing the treatment gap observed in the patients but also it is important that a great deal of information is aimed at diminishing the fear and rejection to which generally and regrettably patients with bipolar disorder and all those subjects who suffer any mental disorder are exposed to.[25]

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