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# Development and psychometric properties of a brief instrument to measure the stigma of aggressiveness in schizophrenia

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**Introduction.** Schizophrenia has been an object of stigmatization throughout history. A critical component of stigma in schizophrenia is the perception that patients are extremely dangerous. Assessment of this concept in the general population by the use of reliable and valid instruments will allow the development of programs aimed to reduce it.

**Objective.** To develop an assessment instrument of the public concept of aggressiveness in schizophrenia and to determine its reliability and validity in a community sample of Mexico City.

**Method.** A total of 258 subjects completed the Public Conception of Aggressiveness Questionnaire (CAQ) which is made up of a brief clinical vignette and specific questions that assess subjective ideas about aggressiveness and mental disorders in patients with schizophrenia.

**Results.** More than 40.0% of the sample considered that the patient with schizophrenia is aggressive and dangerous. The CAQ had an adequate internal consistency (alpha=0.74). The results of the factorial analysis showed that two factors explained 61.0% of the variance.

**Discussion.** The items of CAQ showed two major areas that evaluate: a) perception of presentation of aggressive behaviors and b) mental illness recognition and social aspects of the stigma of dangerousness. The CAQ is an instrument with adequate psychometric properties that could be useful to evaluate the perception of aggressiveness in schizophrenia among the general population.

**Key words:**
Stigma, aggressiveness, dangerousness, schizophrenia.

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## Desarrollo y propiedades psicométricas de un instrumento breve para evaluar el estigma de agresividad en la esquizofrenia

**Introducción.** La esquizofrenia ha sido objeto de estigmatización a lo largo de la historia. Un componente crítico del estigma en esquizofrenia es la percepción acerca de la extrema peligrosidad de los individuos que la padecen. La evaluación de este concepto en población general mediante instrumentos válidos y confiables permitirá el desarrollo de programas dirigidos a su reducción.

**Objetivo.** Desarrollar un instrumento de medición del concepto público de agresividad de la esquizofrenia y determinar su confiabilidad y validez en una muestra comunitaria de la Ciudad de México.

**Método.** Un total de 258 sujetos completaron el Cuestionario de Concepto Público de Agresividad (CPA), el cual está conformado por una viñeta clínica breve y preguntas específicas que valoran la concepción subjetiva de agresividad y enfermedad mental del paciente con esquizofrenia.

**Resultados.** Poco más del 40,0% de los sujetos entrevistados consideró agresivo y peligroso al paciente con esquizofrenia. El CPA mostró una adecuada consistencia (alpha=0,74). El análisis factorial del instrumento arrojó dos factores que explicaron el 61.0% de la varianza.

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**Discusión.** Los reactivos del CPA mostraron dos áreas principales de evaluación: a) percepción sobre la presentación de comportamientos agresivos y, b) reconocimiento de la enfermedad mental y aspectos sociales del estigma de peligrosidad. El CPA es un instrumento con adecuadas propiedades psicométricas que puede ser de utilidad para evaluar la percepción de agresividad del paciente con esquizofrenia en población abierta.

Palabras clave:
Estigma, agresividad, peligrosidad, esquizofrenia

## INTRODUCTION

The word stigma refers to a framework or characteristic that usually generates negative attitudes towards those having it.[1] Generally, it is conceived as the combination of three central problems: lack of knowledge (ignorance), negative attitudes (prejudice) and avoidant or excluding behaviors (discrimination).[2-4]

Stigma, prejudice and discrimination are individual and psychological processes[2] with a direct and differential impact between those perceiving it (public stigma) and those who are the object of the stigma (self-directed stigma). Public stigma is the reaction of the general population towards a specific group, this being the main point of our present work while self-stigma refers to the effects of forming a part of the stigmatized group and of internalizing the stigma.[5]

Mental diseases have been the object of stigmatization throughout history[6] and in this area, they have been considered to exist on the same level as drug addiction, prostitution and the status of ex-convicts.[7] Unfortunately, the negative social responses towards these sufferings, and specifically schizophrenia,[8-10] have undergone little or no change over time in spite of the growing advances in the medical-biological and psychosocial explanations of most of these disorders.[11-13]

Stigma towards persons with medical diseases is associated with the development of depressive pictures, increased anxiety, withdrawal, deterioration in social performance, decreased self-esteem, fewer opportunities for employment and dignified housing as well as greater stress in the family nucleus.[14] It has also been considered to be an obstacle in the search for specialized treatment and treatment compliance, worsening the clinical prognoses of the patients.[15]

Several studies have shown that a critical component of the stigma of schizophrenia is the perception on the extreme dangerousness of the individuals who have it.[9, 16-19] Even if the level of perceived dangerousness by the community is not the only factor associated to the stigmatization, the concepts of aggression and dangerousness are a core aspect of the stereotype that has been formed regarding individuals with schizophrenia.[20] In fact, it has been reported that persons who visualize mental patients as aggressive and/or dangerous, show greater fear and avoidance behaviors towards them.[5]

Many of the international studies aimed at the evaluation of the stigma of schizophrenia contemplate different areas related with the disease, which include, among others, the causes of the disease, the negative attitudes and avoidance behaviors towards the persons who suffer it, etc.[21] That is why the public concept of aggressiveness of schizophrenia should form an integral part of a general evaluation of the stigma. However, in the instruments available up to date, only a reduced number of items are included and sometimes there is only one question on it.

In the establishment of programs aimed at preventing or reducing stigma of aggressiveness associated to schizophrenia, it is necessary to have tools that make it possible to reliably evaluate this concept in the general population,[22] so that the purpose of the present study has been to develop a measurement tool of the public concept of aggressiveness of schizophrenia and to determine its reliability and validity in a community sample of the City of Mexico.

## METHOD

### Subjects

Recruitment of the subjects was carried out using an open type census based on availability in educational and work centers, in waiting areas and recreational centers of the city of Mexico. All the subjects were informed about the objective of the study and their oral consent was requested to answer the Public Conception of Aggressiveness Questionnaire. A total of 258 subjects were included, 30.6% ( n=79) of whom were men and 69.4% (n=179) were women, with an average age of 39.6 ± 15.2 years (range 18 – 79 years) and schooling of 13.9 ± 3.3 years (range 3 – 21 years). A total of 56.2% (n=145) had paid employment, 25.2% (n=65) dedicated their time to the home, 15.9% (n=41) were students and only 2.7% (n=7) were unemployed.

### Instrument

The Public Conception of Aggressiveness Questionnaire (CAQ) is a self applied instrument designed *ad hoc* for the purpose of the present study. It is made up of 3 areas formed by different items in which the necessary information for

the evaluation of the public concept of aggressiveness of the patient with schizophrenia is recorded and assembled. The first section, "General Data," contains the identification data of the subject who is answering the questionnaire. It includes age at the time of filling out the questionnaire, gender, schooling completed in years and occupation at present.

In the second section, there is a clinical vignette taken from the work of Link BG et al.[23, 24] This vignette describes a patient with paranoid schizophrenia with active psychotic symptoms (for example, auditory hallucinations, reference delusions, active social avoidance) Based on the information in this vignette, the person being interviewed is asked to answer 5 questions related with the probable aggressive behavior that the patient described could have. These questions were adapted to the Overt Aggression Scale (OAS).[25-27] They evaluate the presence and severity of the verbal aggression, aggression against self, aggression towards objects and aggression towards others. The last question of this section evaluates the form in which the patient described in the vignette could be calmed down.

To complete the questionnaire, 3 additional questions were included. These questions were aimed at evaluating on a Likert like scale (totally disagree - totally agree) if the person interviewed considers that the patient described in the clinical vignette suffers a mental disease, the level of agreement in relationship to the criminal responsibility of the patient if an offense is committed and if the person interviewed considers that the patient described is dangerous to society.

## Statistical analysis

Frequencies and percentages for the categorical variables and with means and standard deviations (SD) for continuous variables were used for the description of the demographic and clinical characteristics.

An analysis of the principal components was performed with varimax rotation to determine the CAQ structure. The threshold of the *Eigen* values was established at a score equal to or greater than 1 as extraction criterion. The items whose communality were greater than 0.40 were included in the factors while those under 0.40 were excluded from the analyses. The internal consistency of the factors extracted was obtained using Cronbach's alpha.

## RESULTS

a) Presence and severity of the perceived aggression
Most of the subjects who answered the CAQ considered that the patient described in the vignette would not behave aggressively (n=150, 58.2%). However, in relationship to verbal aggression, 23.3% (n=60) considered that due to the symptoms described, the patient could make clear verbal threats of violence (verbal aggression) 4.6% (n=41) considered that the patient could cut him/herself, mutilate or cause severe harm to him/herself (aggression against self), 15.9% (n=41) reported that the patient broke things, smashed objects or threw them dangerously (aggression towards objects) and 3.9% (n=10) considered that he/she could attack others, causing mild to severe harm (aggression towards others).
The item on the level of dangerousness of the patient for society was dichotomized in order to determine the percentage of patients in agreement (agreement and totally in agreement) and in disagreement (in disagreement and totally in disagreement). In this way, up to 46.1% (n=119) considered the patient described in the vignette as dangerous for society (and 53.9%, n=139 did not).

b) Mental disease and criminal responsibility
The same as the item of dangerousness, the items of mental disease and criminal responsibility were dichotomized. Even though most of the subjects considered that the patient described in the vignette suffered a mental disease (n=223, 86.4%), only 26.4% (n=68) considered that the use of oral medicines was the best option to reduce the symptoms described while almost one third considered that speaking with the patient alone (n=89, 34.5%) or in group (n=32, 12.4%) were the best options.
In relationship to criminal responsibility, 55.8% (n=144) considered that the patient described would not be guilty of an offense due to his/her mental faculties while 44.2% (n=114) would consider the subject to be responsible for it.

c) Factorial analysis and internal consistency of the CAQ
The factorial analysis of the instrument showed 2 factors that explained 61.0% of the variance. The results of the matrix of the principal components obtained from the factorial analysis are shown in Table 1. Global internal consistence of the instrument was 0.74. The first factor, which evaluated the different types of aggressiveness, have a Chronbach's alpha of 0.83, and the second factor, which included the perceptions on mental disease and dangerousness, showed an alpha of 0.63.

## DISCUSSION

The present study reports the first results on the clinimetric properties of the Public Concept of Aggressiveness Questionnaire, which was designed in order to evaluate the stigma of aggressiveness and dangerousness of the patient with schizophrenia.

**Table 1** Factorial loads of the Public Concept of Dangerousness Questionnaire – Varimax

| Items | Factors | |
|---|---|---|
| | Aggressiveness | Mental disease |
| How does John behave verbally? (Verbal aggression) | 0.80 | |
| How does John behave with himself? (Aggression against self) | 0.79 | |
| How does John behave with objects? (Aggression against objects) | 0.84 | |
| How does John behave with other persons? (Aggression against other people) | 0.84 | |
| How can John be calmed down? (Intervention) | | 0.54 |
| I consider that John has a mental disease | | 0.73 |
| If John committed an offense, I would consider him as a criminally responsible person (he is not guilty of the offense due to his mental faculties) | | 0.70 |
| I consider that John is a dangerous person for society | | 0.61 |
| **Eigen value** | **3.5** | **1.3** |
| **Variance (%)** | **43.8** | **17.2** |

The instrument showed adequate internal consistency (0.74), it being more reliable in the evaluation of the different types of aggressiveness than in the items aimed at evaluating the recognition of mental disease and social aspects of the dangerousness. Our results on the factorial analysis show the grouping of the items of the instrument in 2 principal areas. In accordance with its content, it has been proposed to classify them in the following way:

a) *Aggressiveness Factor:* This is made up of 4 items that evaluate the perception of the surveyed in relationship to the probable presentation of different aggressive behaviors.
b) *Mental Disease Factor:* In this factor, the items related with mental disease and social aspects of the stigma of dangerousness were grouped. That is, the recognition of a mental disease, based on the symptoms described in the vignette, the way in which this can be handled, its impact if there is any offense related with the symptoms and the perception of danger for the society.

After the application of the questionnaire, more than 80% of the surveyed recognized the presence of a mental disease in the patient described, but less than 50% considered that the patient described would not have any type of aggressive behavior, would not be dangerous to society and would not consider him/her guilty in case of committing some offense. This result could be secondary to the premise of different antistigma programs around the world, which postulate that the recognition of the biological origin of the mental disease could decrease the stigma associated to it.[28-31] However, other studies have shown that when there is the belief that the mental disease, especially schizophrenia, has a biogenetic basis, the general public considers that the person suffering it does not have control over his/her behavior and that this makes the person unpredictable and dangerous.[13, 32-35] However, this point should be approached in future studies that specifically evaluate the impact of the biological etiology of mental disease and the perception of aggressiveness and dangerousness of the patient with schizophrenia.

Up to now, in Mexico, there are no specific studies that evaluate the perception of aggressiveness of the patient with schizophrenia. Therefore, having the Public Concept of Aggressiveness Questionnaire will make it possible to evaluate this critical component of the stigma suffered in this Mexican population reliably and validly. In this way, valuable information will be obtained for the creation, implementation and evaluation of programs aimed at the reduction of the stigma. In fact, the information that directly approaches the subjects of violence and other erroneous concepts on mental diseases, combining the promotion of contact between the community and persons with severe mental disorders, are the most promising strategies to cope with this important socio-health care problem.[36]

Finally, it should be pointed out that there are already recent and adequate psychometric translations of these scales that are useful to evaluate stigma that occurs in the patient per se (whether internalized stigma or perception and the social consequences of the disorder and the casual attribution of the symptoms);[37-38] but this is not true to the self-report such as that presented herein, dedicated to knowing the stigma of the others towards those with severe mental disorders, such as schizophrenia. Along this line, it is considered that the present work can also have an heuristic value to motivate and facilitate the development of the investigation in this crucial field of knowledge.

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