ORIGINAL ARTICLE

Mood and psychosis in schizophrenia: exploring diagnostic frontiers with the Operational Criteria Checklist for Psychotic Illness (OPCRIT) and John Nash case

Ánimo y psicosis en esquizofrenia: explorando fronteras diagnósticas con el Inventario de Criterios Operacionales para Enfermedades Psicóticas (OPCRIT) y el caso John Nash

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ABSTRACT

BACKGROUND: A diagnostic simulation exercise was carried out using John Nash's case (the 1994 Mathematics Nobel Prize winner and described as suffering from schizophrenia) to introduce the Operational Criteria Checklist for Psychotic Illness (OPCRIT) and discuss the uncertain boundaries between some of the diagnostic categories presented by the instrument, as well as the use of dimensional diagnosis in psychiatry. METHODS: Data were obtained from John Nash's biography (written by Sylvia Nasar) and from the movie A Beautiful Mind. The authors discussed the symptoms shown in both the biography and the movie and then entered data into the OPCRIT program. Because consensus was not reached in some items, two additional simulations were carried out. In these, three items were modified, in order to investigate the effects of these changes on diagnosis: thoughts racing (31st item), increased sociability (53rd item), and relationship psychotic/affective symptoms (52nd item).
RESULTS: The diagnoses provided by two of the simulations were schizophrenia (DSM-IV) and undifferentiated schizophrenia (ICD-10). Other results included schizoaffective disorder/bipolar type (DSM-IV) and schizoaffective disorder/manic type (ICD-10). It is important to emphasize that the 52nd item (relationship psychotic/affective symptoms) was the only one with an effect on diagnosis when altered (schizophrenia vs. schizoaffective disorder). DISCUSSION: The boundaries between schizophrenia and schizoaffective disorder are not clear and explain the frequent difficulty faced by psychiatrists in establishing diagnosis. CONCLUSIONS: This exercise revealed the importance of a detailed assessment of the course of illness for a correct diagnosis, emphasizing the relationship between psychotic and affective symptoms. We emphasize the importance of dimensional diagnosis and the need for further studies in order to validate the diagnostic categories currently used.

Keywords: Diagnosis, schizophrenia, OPCRIT, schizoaffective disorder.

RESUMEN

INTRODUCCIÓN: Utilizamos una simulación diagnóstica en el caso John Nash, Premio Nobel de Matemática en 1994 y descrito como portador de esquizofrenia, para presentar el Inventario de Criterios Operacionales para las Enfermedades Psicóticas (OPCRIT) y discutir las frágiles delimitaciones de los diagnósticos categóricos y el uso de diagnósticos dimensionales en psiquiatría. MÉTODO: Basados en la biografía escrita por Sylvia Nasar y en la película Una mente maravillosa (A Beautiful Mind), los autores discutirán la sintomatología y completarán el OPCRIT. Debido a la ausencia inicial de consenso, se ha repetido la simulación dos veces más, modificándose los puntos que evalúan la presencia de pensamientos acelerados (ítem 31), la ocurrencia de aumento de sociabilidad (ítem 53) y el equilibrio entre síntomas psicóticos y de ánimo (ítem 52), para verificar las repercusiones en el diagnóstico. RESULTADOS: Los diagnósticos obtenidos en dos de las simulaciones fueron esquizofrenia (DSM-IV) y esquizofrenia indiferenciada (CID-10), corroborando con el diagnóstico de John Nash en su biografía. La otra simulación presentó los diagnósticos de trastorno esquizoaffectivo de tipo bipolar (DSM-IV) y de trastorno esquizoaffectivo de tipo maníaco (CID-10). Solamente el cambio del criterio de proporcionalidad entre síntomas psicóticos y de ánimo (ítem 52) alteró el diagnóstico de esquizofrenia para trastorno esquizoaffectivo. DISCUSIÓN: Las fronteras que separan los diagnósticos de esquizofrenia y trastorno esquizoaffectivo son muy tenues, lo que explica las dificultades diagnósticas. CONCLUSIONES: Subrayamos la importancia del estudio detallado del curso de la enfermedad, enfatizando la proporción entre síntomas psicóticos y de ánimo, para la definición diagnóstica de los trastornos psicóticos conforme a las clasificaciones actuales. Además, destacamos la importancia de los diagnósticos dimensionales y la necesidad de más estudios para la validación de las categorías diagnósticas actuales.

Palabras clave: Diagnóstico, esquizofrenia, OPCRIT, trastorno esquizoaffectivo.

INTRODUCTION

Internationally renowned, and winner of the Nobel Prize for Mathematics in 1994, John Nash recently became famous when his story was presented in the film A Beautiful Mind, directed by Ron Howard. Having seen the film, many psychiatrists expressed doubts about the mathematician's diagnosis. Was he suffering from schizophrenia, schizoaffective disorder or bipolar disorder? Doubts that we often encounter in our clinical practice.

John Nash, an individual of great intelligence and creativity, presented throughout his life repeated crises of severe agitation, delusions of grandeur and several other bizarre symptoms. From his first hospitalization at the McLean Hospital in Boston, there was consensus among psychiatrists that Nash was obviously psychotic. During this hospital stay Nash believed he had unparalleled abilities. He spoke frenetically about coded messages in the headlines on the front page of The New York Times, which he alone had decoded. His discourse was full of stories about foreign conspiracies, men in red ties that pursued him and aliens who were looking after his career. He claimed to have salvation for the universe and a mission to organize a world government, calling himself "Emperor of Antarctica" and "Prince of Peace". He told his friends that a photo of Pope John XXIII was in fact a doctored
picture of Nash himself. He believed that he was being followed by the FBI, that he was God's left foot and attempted to gain recognition for his great powers, which were possibly celestial, by means of letters written without meaning. An insomniac, he walked about barefoot and expressed himself in disjointed discourse.

It becomes obvious, on a first reading, that a psychotic disorder was present. However, the presence of elevated mood, frenetic discourse and delusions of grandeur are additional elements that complicate a differential diagnosis between psychoses and affective disorders. The bizarre character of his delusions of grandeur in general point to schizophrenia, but the diagnostic problems do not end there. In the most widely employed current classifications, i.e. the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV)\(^1\) and the ICD-10 Classification of Mental and Behavioral Disorders: Clinical Descriptions and Diagnostic Guidelines (ICD-10),\(^2\) it is important to quantify the presence of distinct psychotic episodes and affective symptoms and to establish a lifetime-based hierarchy for them.

In the biography of John Nash (written by Sylvia Nasar\(^3\)) that was the source for the film, there is a detailed description of each year of his life with extensive descriptions of the persistent psychotic symptoms and bizarre behavior, frequently associated with elevated mood and delusions of grandeur. Could the presence of these affective symptoms be sufficient to warrant questioning the diagnosis of schizophrenia that was made at the time? Furthermore, was John Nash was suffering from a schizoaffective disorder? Or, who knows, bipolar disorder with psychotic symptoms? Finally, if we are, in fact, dealing with schizophrenia, of which subtype is it?

This is an issue that has frequently been brought up by experienced clinicians, echoing the reports of social, clinical and forensic psychiatrists, whether working in hospitals, asylums, outpatients, emergency services, psychiatric consulting rooms and recently the so-called Centros de Atenção Psicosocial (CAPS — Psychosocial Care Centers). The same clinicians also find themselves exposed daily to doubts about the classifications of the patients they observe. Is this elation, agitation or both? Are the thoughts of grandeur racing or agitated? Is the gregarious behavior the increased sociability of the maniac or the deluded grandeur of the schizophrenic? Could just one of these symptoms alter the diagnosis? What should be done when faced with symptoms of augmented energy or sadness during some period of the condition? Could the occurrence of these symptoms actually delineate two, essentially different, conditions? Or does their occurrence represent a single condition with more than one continuum?\(^4\)

The objective of the present study is to verify, by means of varying simulations, the effect of the presence of affective symptoms in a patient with chronic psychosis on their psychiatric diagnosis, employing a variety of classification systems, in particular the DSM-IV and the ICD-10, as calculated by a computerized system, the Operational Criteria Checklist for Psychotic Illness (OPCRIT) and to discuss certain important issues related to current psychiatric classifications.

**METHOD**

OPCRIT diagnosis was made by research psychiatrists from the Schizophrenia Program of Universidade Federal do Rio Grande do Sul with practical experience in the care of psychotic patients ranging from 8 to 25 years and have been specially trained to use OPCRIT (Appendix 1).

The OPCRIT data was collated after performing a systematic reading of John Nash's biography in Portuguese translation and watching the film. All symptoms presented were recorded by the researcher with most experience (P.B.A.). Each item in the OPCRIT was discussed with among the authors and defined once consensus had been reached between all four. Finally, because of the existence of initially conflicting symptoms, two separate simulations were processed and the diagnosis produced by each conflicting system alternative verified.

The existence of the OPCRIT system adapted for Portuguese and in use in Brazil, together with an understanding of the complicating diagnostic subtleties in the case of John Nash, was the reason for choosing to administer this instrument. The source of rating (item 1 of the OPCRIT), which is the means by which data was obtained — in this case, from the biography and the film — was scored at 6 (Combination of sources excluding structured interview). The possibility of using a combination of
rating sources had been planned for by the authors. It was for this reason that it was possible to employ this particular instrument.

The OPCRIT system was developed by McGuffin, Farmer & Harvey in 1991, and the latest version is from 1997, and consists of a list of symptoms, a glossary containing definitions and scores for each item and software written for personal computers that provides a diagnosis for the subject according to the main diagnostic classifications used in psychiatry. This system was translated and validated for use in Portuguese by researchers from the Universidade de Coimbra and was introduced to Brazil as part of the Projeto de Cooperação Internacional Brasil/Portugal de Estudo das Bases Moleculares da Esquizofrenia nas Populações Brasileira e Portuguesa (CAPES — GRICES — Brazil/Portugal International Cooperation Project for the Study of the Molecular Basis of Schizophrenia in the Brazilian and Portuguese Populations).

The project provided for the dual-nationality team to be trained to use the OPCRIT system with a similar methodology, which was applied by the authors to more than 200 patients suffering from psychotic syndromes.

The OPCRIT is split into 90 items: the first 16 relate to identifying factors (clinical and demographic); the next nine (from 17 to 25) assess appearance and behavior; the next six (26 to 31) refer to language and ways of thinking; 22 items (32 to 53) deal with the affect and associated characteristics; 18 items (54 to 71) evaluate abnormal beliefs and ideas; six items (72 to 77) assess the subject's altered perceptions; six items (78 to 83) deal with abuse of or dependence on drugs; and, finally, seven items refer to features of the interview (including credibility of information, insight and rapport with the interviewer) and of the course of the disease (incapacity, deterioration and response to neuroleptics). When evaluating the majority of symptoms, the period and duration throughout the disease should be defined, with the intention of completing time criteria and predominant symptom impact. Its ease of use and precision have meant that the system has been progressively applied by several schizophrenia research teams in the USA and Europe.

The checklist results are obtained after a systematic review of the course of the disease with patients and relatives, followed by a structured interview based on the program glossary and then input onto the OPCRIT system generating diagnoses in psychotic and affective disorder categories according to 13 different classifications: DSM-IV (included in 1994), ICD-10, DSM-III, DSM-III-R, RDC (Research Diagnostic Criteria, by Spitzer), St. Louis criteria, Carpenter's flexible schizophrenia criteria, the first rank symptoms of Schneider, a version of the French criteria for non-affective functional psychosis, the criteria of Taylor and Abrams and three schizophrenia classifications used in genetic studies, by Tsuang & Winokur, Crow and Farmer. The OPCRIT system was designed to be used by trained clinicians and can be completed on the basis of diagnostic interviews, medical records and other sources, providing they afford sufficient detail; furthermore, it offers a diagnostic method allowing comparison between different studies and aids with structuring the diagnostic process.

We used the perspective of signs and symptoms that occur throughout life because of the perspective required, i.e. to define the main, predominant diagnosis throughout life. Furthermore, this is also the perspective most often used in psychopathologic and genetic research into schizophrenia.

Due to a lack of initial consensus on the definition of certain symptoms during completion of the OPCRIT, three different simulations were run (table 1), the first of which (Simulation 1) returned the most probable result. The other two produced possibilities to be taken into consideration (Simulations 2 and 3) and will be part of the discussion below.

The most probable diagnosis for John Nash (Simulation 1) was achieved by ascertaining that there was no evidence for thoughts racing (item 31) or increased sociability (item 53) and that psychotic symptoms predominating, despite the occurrence of occasional affective disruptions (item 52). For Simulation 2, thoughts racing were scored (item 31) as was increased sociability (item 53), both for less than 2 weeks. Additionally, affective and psychotic symptoms were scored as in equilibrium, but with no specific group of symptoms dominating the global course of the disease, although with delusions and hallucinations for at least 2 weeks and "but without predominant affective symptoms" (item 52). Finally, in Simulation 3, thoughts racing (item 31) and increased sociability (item 53)
were both maintained, but associated with "psychotic symptoms dominate the clinical picture" (item 52).

RESULTS

The diagnoses obtained from Simulations 1 and 3 were schizophrenia, according to the DSM-IV and undifferentiated schizophrenia according to the ICD-10, corroborating the diagnosis described in John Nash’s biography. Simulation 2 returned the diagnoses of bipolar type schizoaffective disorder according to the DSM-IV and manic type schizoaffective disorder by the ICD-10 (table 2).

What is observable about the three simulations is that variations in symptoms of thoughts racing (item 31) and increased sociability (item 53) (often present in mania) are not sufficient to change the diagnosis of schizophrenia into schizoaffective disorder. However, simply changing the scoring for relationship between psychotic and affective symptoms (item 52), from the initial choice of "psychotic symptoms dominate the clinical picture, although occasional affective disturbances may also occur" (score 1) to the alternative choice "psychotic and affective symptoms are in equilibrium; neither symptom group dominates the global course of the disease, plus delusions or hallucinations for at least 2 weeks, but without predominant affective symptoms " (score 4), the diagnosis, both by the DSM-IV and by ICD-10, changes from schizophrenia to schizoaffective disorder. Therefore, the occurrence of two additional affective symptoms at a given point in time does not prove to be as important as an observation that the disorder progresses over a long period of time, which allows for the balance between affective and psychotic symptoms to be adequately recorded. Altering the scoring for the balance between affective and psychotic symptoms can result in changes to the diagnosis according to the two principal classification systems (DSM-IV and ICD-10). In contrast, additional scores for delusions of grandeur, accelerated thinking and loss of inhibitions inappropriate to social setting, while having shorter duration than the other psychotic symptoms, did not just maintain the diagnosis of schizophrenia, but also adds force to reports from experienced clinicians that some symptoms can equally occur in the diagnostic categories schizophrenia, schizoaffective disorder and bipolar mood disorder, such as the presence of delusions with bizarre content, which is not specific to any of them and should, therefore, be treated with caution when a diagnosis is being defined.

DISCUSSION

Knowledge about the conceptual differences between the various different classification systems in use has been progressively building up, resulting in a consequent increase in knowledge reliability and validity problems. The best-known systems (DSM-IV and ICD-10) present the best reliability and have good rates of agreement (kappa = 0.823), despite neither having undergone a complete validation process. These systems corroborate the diagnosis of schizophrenia for the majority of the criteria, such as type and duration of symptoms and exclusion criteria. They disagree, however, with relation to disease progress criteria, total duration of observations necessary to make a diagnosis and impact on the patient’s life (table 3).
There is a subtle discrepancy between the DSM-IV and the ICD-10 in terms of the classification for schizoaffective disorder, (table 4). The symptoms coincide on three points: 1) the requirement for affective symptoms over a substantial period of time of sufficient number to fulfill a diagnosis of mood disorder; 2) requirement for symptoms from at least one of the psychosis symptom groups for at least 2 weeks; and 3) requirement to rule out organic disorders and those related to substances. However, the DSM-IV demands a period of psychosis with no mood alterations for at least 2 weeks, while the ICD-10 demands a balance between the number, severity and duration of affective and psychotic symptoms for the majority of the course of the disease.

These subtle differences in the balance between psychotic and affective symptoms reveal diagnostic uncertainties and can result in different diagnoses in cases where patients have a mixture of psychotic and affective symptoms, as commonly occurs in clinical practice, and as occurred historically with John Nash, as he passed from psychiatrist to psychiatrist and as was observed in the three simulations with symptoms on which it was difficult to reach consensus.

In response to the high frequency of this type of diagnostic difficulty in clinical practice, and motivated by the absence of formal diagnosis validation, despite the high level of reliability, one could think in terms of expanding the classification systems with operational criteria and algorithms.
defined by computer, as is the case of the OPCRIT system, in order to support clinical diagnosis and better orient evidence-based decision making, since the diagnosis of these cases of psychosis and altered mood can be considered an "opinion", as Kety has said. Since it is not known exactly "what" is being diagnosed, evidence has been progressively increasing, not just for the concurrence of affective and psychotic symptoms, but also for the aggregation of schizophrenic, schizoaffective and affective disorders into families. One possible approach to these difficulties is the use of systems capable of dealing with a large list of symptoms, with well defined glossaries and intensity of temporal occurrence and which generate diagnoses from a variety of classification systems. The use of polydiagnostic systems based on algorithms can be of help to clinicians and researchers in this area, overcoming the issues involved in choosing one system over another. In our case, the OPCRIT system generated trustworthy diagnoses with a high level of agreement for three simulations.

**CONCLUSIONS**

This diagnostic simulation study, based on bibliographic and cinematic records of John Nash, using the OPCRIT program for interview and diagnosis, was proven to be valid and afforded a diagnosis that was convergent with his doctors'. By means of studying this case, it was possible to verify the need for and importance of correctly assessing two symptom groups (delusions of grandeur and accelerated ideas) and for adequate parameters for clinical observation over time, despite the conceptual differences between the classification systems that are currently used in research and clinical practice (DSM-IV, ICD-10 and others).

Based on evidence from the three simulations that were generated in response to the lack of consensus on two symptoms and on the balance of symptom duration, there follows a suggested scheme describing the main points to be taken into account when diagnosing schizophrenia and schizoaffective disorder.

**Symptoms of delusions of grandeur.** The aim should be to highlight the difference between bizarre, grandiose with agitation and grandiose with elevated mood. Notwithstanding, even in the absence of a clear distinction, the final diagnosis will not be modified, whether it be by ICD-10 or DSM-IV.

**Symptoms of thoughts racing.** Should be observed and recorded, but, in the same manner, their inclusion or exclusion does not change the diagnosis.

**Observation of the curse of the disease.** Precise definition of the proportion of psychotic and the proportion of affective symptoms is extremely important to differential diagnosis of schizophrenia and schizoaffective disorder in many classification systems despite divergences in how they evaluate the proportions. A slight error in evaluation can have important consequences for the final diagnosis.

Polydiagnostic formulations should be sought whenever possible (for many different classification systems), since, even when correctly employed, they can generate different diagnoses whenever the intensity and duration of symptoms diverges.

We believe the diagnostic difficulty illustrated in this simulation exercise, taking into account three situations in which there was no consensus, to be a reflection of a wider problem with the validity of these systems (ICD-10 and DSM-IV) and their respective diagnostic categories as clinically and etiologically distinct entities. It is possible that several different intermediate forms of psychosis exist with affective symptoms, or that the two classic diagnoses of schizophrenia and bipolar mood disorder represent a spectrum of the same disease, or an incomplete type of phenotypical expression of a single disease, without necessarily implying different responses to treatment.

Nowadays, for example, the importance of early and continued use of antipsychotics is reinforced, irrespective of the categorical type of psychosis diagnosis (schizophrenia or bipolar mood disorder with psychotic symptoms). In this way it is possible that, by means of early and prolonged use of these drugs, with periodic reviews, we may prevent the deterioration, the isolation, exclusion and misfortune of many of our patients, which would not be the case if we were to wait through years of the disease progressing with affective and psychotic symptoms before treating patients with antipsychotics and/or mood stabilizers.
The spread of categorical diagnosis usage at the expense of dimensional diagnoses has brought with it benefits in terms of communication between clinicians and statisticians, but it has also brought with it an increase in the risk of detecting symptoms and diseases in a gross and imprecise manner, impoverishing clinical observation and the description of psychopathology by splitting entities according to cut-off points which may give the impression of distances that are larger than is really the case. Thus, despite appearing that a total return to minute description of symptoms for any case of psychosis may appear to have too high a cost and very doubtful benefits to justify its use in daily work, it allows not only for the progressively more and more consistent construction of criteria for diagnosis categorization, but also for dimensional descriptions to be used in conjunction, discarding less information in order to understand and care for the individual, maintaining descriptive richness and making it possible to comprehend the personal, family and social problems associated with psychiatric diseases. The suitability of the combined use of categorical and dimensional diagnoses for severe illness with psychosis has been progressively strengthened, as a result of the advantage it offers of associating description with an understanding of the life experience linked with the psychosis.

Finally, the study gives support to the idea that rushed delimitation according to just the present occurrence of symptoms and without the precise balance of time of occurrence of psychotic and affective symptoms will prejudice the reliability of diagnosis, at the same time as revealing the limitations of the current concept of psychoses as distinct and precise disease categories. However, even detailed description does not just fail to solve the problem of the concept of psychoses as syndromes along continuous or categorical dimensions, but also intensifies the conflict of knowledge. It further reveals that severe mental disorders are not so different from each other and that they have certain similarities and undefined borders. This fragility of borders reinforces the need for more detailed studies correlating symptom dimensions with risk factors outcomes and response to treatment.18,19

This work, associated with the definition of biochemical, electrophysiological, molecular and psychological standards or dimensions for sufferers from psychotic and affective symptoms, could contribute to a new generation of nosology based on causes or effects of diseases. This would allow evolution and advances based on evidence of cause, course and response to treatment based on the dichotomy implanted by Kraepelin, when dividing psychosis into the great groups of early dementia and manic-depressive insanity.20 With this one could start to think of real progress in the definition of psychoses, with real clinical utility. Within such a proposal, computer programs to assist diagnosis, such as OPCRIT, appear in the form of tools that are ever more necessary because of their simplicity, practicality, reliability and operationality, and which one hopes are progressively used more and more.

REFERENCES


Appendix

Operational Criteria Checklist (OPCRIT)

1. Source of rating
   1 = Hospital records/clinical processes
   2 = Structured interview with patient
   3 = Prepared summary
   4 = Interview with an informant
   5 = Combination of sources including structured interview
   6 = Combination of sources excluding structured interview

2. Time frame
   1 = Current/present or most recent episode
   2 = Most severe episode so far
   3 = Lifelong symptoms
   4 = Other specific episode or period of time

3. Sex code
   0 = Male
   1 = Female

4. Age at onset:

   This should be given to the nearest year and is defined as the earliest age at which medical advice was sought for psychiatric reasons or at which symptoms began to cause subjective distress or impair functioning (enter age in years, e.g. 35).

5. Mode of onset
   1 = Sudden onset, defined as within hours or days
   2 = Acute onset, defined as within 1 week
   3 = Moderately acute onset, defined as within 1 month
   4 = Gradual onset during a period of up to 6 months
5 = Insidious onset over a period of more than 6 months Score as earlier item (lower points) if in doubt

6. Single

The subject has never married or lived as married
0 = Married
1 = Single

7. Unemployed

The subject was not employed at onset as defined above. Women working full time in the home are scored as if employed. Students attending classes on full-time course are scored as if employed
0 = Employed
1 = Unemployed

8. Duration of illness (maximum: 99)

Total duration of illness includes prodromal and residual disabilities along with the active phase of the illness. In psychotic disorders, prodromal/residual phase symptoms are scored if any two of the following are present before or after the acute episode: social isolation, social impairment, markedly peculiar behavior, marked impairment in personal hygiene, blunted, flat, or inappropriate affect, digressive, vague, overelaborate speech, odd or bizarre ideation, unusual perceptual experiences

9. Poor pre-morbid work adjustment

This refers to work history before onset of illness. It should be scored (as 1) if the patient was unable to keep any job for more than 6 months, had a history of frequent changes of job, or was only able to sustain a job well below that expected by his or her educational level or training at the time of first psychiatric contact. Also score positively for a persistently very poor standard of housework (homemakers) and badly failing to keep up with studies (students).
0 = good work adjustment 1 = poor work adjustment

10. Poor premorbid social adjustment

Patient found difficulty entering or maintaining normal social relationships, showed persistent social isolation or withdrawal, or maintained solitary interests before onset of psychotic symptoms.
0 = good social adjustment
1 = poor social adjustment

11. Premorbid personality disorder

Evidence of inadequate/schizoid/schizotypal/paranoid/cyclothymic/psychopathic/sociopathic personality disorder present since adolescence and before onset of psychotic symptoms.
0 = absent
1 = personality disorder present

12. Alcohol/other drug abuse within 1 year of onset of psychotic symptoms

Alcohol abuse where quantity is excessive (rater judgment) where alcohol-related complications occur, during the year before first psychiatric contact (rated strictly as exclusion criteria for some definitions of schizophrenia); other drug abuse where non prescribed drugs are repeatedly taken or prescribed drugs are used in excessive quantities and without medical supervision in the year before first psychiatric contact.
0 = absent
1 = alcohol/other drug abuse present

13. Family history of schizophrenia
Definite history of schizophrenia in a first- or second-degree relative.
0 = absent
1 = family history present

14. Family history of other psychiatric disorder

First- or second degree relative has another psychiatric disorder severe enough to warrant psychiatric referral.
0 = absent
1 = family history present

15. Coarse brain disease prior to onset

There is evidence from physical examination and/or complementary investigations that could explain all or the majority of mental symptoms. This could include obvious brain damage, marked metabolic upset or drug-induced state known to cause psychotic distress, confusion or altered level of consciousness. Non-specific anomalies (for example: enlarged ventricles on CCT) should not be included.
0 = absent
1 = present

16. Definite psychosocial stressor prior, to onset

A serious or moderately serious threatening event occurred before onset of the disorder and which is unlikely to be the result of the individual’s own behavior (i.e. the event could be seen as independent or uncontrollable).
0 = absent
1 = present

17. Bizarre behavior

Behavior that is strange and incomprehensible to others; includes behavior that could be interpreted as a response to auditory hallucinations or thought interference.
0 = absent
1 = present

18. Catatonia

Patient exhibits persistent mannerisms, stereotypies, posturing, catalepsy, stupor, or excitement that is not explicable by affective change.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

19. Excessive activity

Patient is markedly overactive. This includes motor, social, and sexual activity.
8 = if hyperactivity lasts for at least 2 days
9 = if duration is at least 4 days
1 = if duration is at least 1 week
2 = if duration is at least 2 weeks

20. Reckless activity

Patient is excessively involved in activities with high potential for painful consequences that are not recognized, e.g. excessive spending, sexual indiscretions, reckless driving, etc.
8 = if duration is at least 2 days
9 = if duration is at least 4 days
21. Distractibility

Patient experiences difficulty concentrating on what is going on around him or her because attention is too easily drawn to irrelevant or extraneous factors.

- 8 = if duration is at least 2 days
- 9 = if duration is at least 4 days
- 2 = if duration is at least 2 weeks
- 1 = if duration is at least 1 week

22. Reduced need for sleep

Patient sleeps less but there is no complaint of insomnia. Extra waking time is usually taken up with excessive activities.

- 8 = if duration is at least 2 days
- 9 = if duration is at least 4 days
- 1 = if duration is at least 1 week
- 2 = if duration is at least 2 weeks

23. Agitated activity

Patient shows excessive repetitive activity, such as fidgety restlessness, wringing of hands, or pacing up and down, all usually accompanied by expression of mental anguish.

- 1 = present for 1 week
- 2 = present for 2 weeks
- 3 = present for 1 month

24. Slowed activity

Patient complains that he or she feels slowed and unable to move. Others may report a subjective feeling of retardation, or retardation may be noted by the examining clinician.

- 1 = present for 1 week
- 2 = present for 2 weeks
- 3 = present for 1 month

25. Loss of energy/tiredness

Subjective complaints of being excessively tired with no energy.

- 1 = present for 1 week
- 2 = present for 2 weeks
- 3 = present for 1 month

26. Speech difficult to understand

Speech that makes communication difficult because of lack of logical or understandable organization; does not include dysarthria or speech impediment.

- 0 = absent
- 1 = present

27. Incoherent

Normal grammatical sentence construction has broken down; includes "word salad" and should only be rated conservatively for extreme forms of formal thought disorder.

- 0 = absent
- 7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
- 1 = present for any other length of time or duration is unspecified
28. Positive formal thought disorder

Patient has fluent speech but tends to communicate poorly due to neologisms, bizarre use of words, derailments, or loosening of associations.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

29. Negative formal thought disorder

Includes paucity of thought, frequent thought blocking, poverty of speech, or poverty of content of speech.
0 = absent
1 = present

30. Pressured speech

Patient is much more talkative than usual or feels under pressure to continue talking; includes manic type of formal thought disorder with clang associations, punning and rhyming, etc.
8 = if duration is at least 2 days
9 = if duration is at least 4 days
1 = if duration is at least 1 week
2 = if duration is at least 2 week

31. Thoughts racing

Patient experiences thoughts racing through his or her head or others observe flights of ideas and find difficulty in following what the patient is saying or in interrupting because of the rapidity and quantity of speech.
8 = if duration is at least 2 days
9 = if duration is at least 4 days
1 = if duration is at least 1 week
2 = if duration is at least 2 week

32. Restricted affect

Patient's emotional responses are restricted in range, and at interview there is an impression of bland indifference or "lack of contact".
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

33. Blunted affect

Where the patient's emotional responses are persistently flat and show a complete failure to "resonate" to external change. The difference between restricted and blunted affect should be regarded as one of degree, with "blunted" only being rated in extreme cases.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

34. Inappropriate affect

Patient's emotional responses are inappropriate to the circumstance, e.g. laughter when discussing painful or sad occurrences, fatuous giggling without apparent reason.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified

35. Elevated mood

Patients predominant mood is one of elation.
8 = if duration is at least 2 days
9 = if duration is at least 4 days
1 = if duration is at least 1 week
2 = if duration is at least 2 week
If elation lasted less than 1 week, but the patient was hospitalized because of affective disorder, score 1.

36. Irritable mood

Patient's mood is predominantly irritable.
8 = if duration is at least 2 days
9 = if duration is at least 4 days
1 = if duration is at least 1 week
2 = if duration is at least 2 week
If elation lasted less than 1 week, but the patient was hospitalized because of affective disorder, score 1.

37. Dysphoria

Persistently low or depressed mood, irritable and sad mood, or pervasive loss of interest. Score 1 if present for at least 1 week, 2 if present for 2 weeks, and 3 if present for 1 month.

38. Diurnal variation

Dysphoria, depressed mood and/or associated depressive symptoms are worse soon after waking, with some measure of improvement (even if only mild) as the day goes on.
0 = absent
1 = present

39. Loss of pleasure

Pervasive inability to enjoy any activity. This includes marked loss of interest or loss of libido. Score 1 for duration of 1 week, 2 for 2 weeks, and 3 for 1 month.

40. Diminished libido

Clear and persistent reduction in sexual interest or drive compared with levels before disease onset.
0 = absent
9 = duration of at least 4 days
1 = at least one week

41. Poor concentration

Subjective complaint of being unable to think clearly, make decisions, etc. Score 1 for duration of 1 week, 2 for 2 weeks, and 3 for 1 month.

42. Excessive self-reproach

Extreme feelings of guilt and unworthiness. This may be of delusional intensity ("worst person in the whole world"). Score 1 for duration of 1 week, 2 for 2 weeks, and 3 for 1 month.

43. Suicidal ideation
Preoccupation with thoughts of death (not necessarily own); includes thinking of suicide, wishing to be dead, and attempts to kill self. Score 1 for duration of 1 week, 2 for 2 weeks, and 3 for 1 month.

44. Initial insomnia

Patient complains of being unable to get to sleep and lies awake for at least 1 hour. Score 1 for duration of 1 week, 2 for 2 weeks, and 3 for 1 month. Only score this item if there is evidence of insomnia.

45. Middle insomnia

Sleep is disturbed, the patient wakes in the middle of sleep and has trouble going back to sleep most majority.
0 = absent
1 = present
Only score this item if there is evidence of insomnia.

46. Early morning waking

Patient complains of persistently waking up at least 1 hour earlier than usual waking time. Score 1 for duration of 1 week, 2 for 2 weeks, and 3 for 1 month.

47. Excessive sleep

Patient complains of sleeping too much. Score 1 if present for 1 week, 2 for 2 weeks, and 3 for 1 month.

48. Poor appetite

Subjective complaint that the patient has a poor appetite (not necessarily observed to be eating less). Score 1 if present for 1 week, 2 for 2 weeks, and 3 for 1 month.

49. Weight loss

1 = loss of 500 g per week over several weeks
2 = loss of at least 1 kg per week over several weeks
3 = loss of at least 5 kg over a 1 year period
Do not score weight loss due to voluntary dieting.

50. Increased appetite

Patient reports increased appetite and/or comfort eating. Score 1 for duration of 1 week, 2 for 2 weeks, and 3 for 1 month.

51. Weight gain

1 = gain of 500 g per week over several weeks
2 = gain of at least 1 kg per week over several weeks
3 = gain of at least 5 kg over a 1 year period

52. Relationship between psychotic/affective symptoms (this item is decisive in diagnosis; complete with care)

0 = without/no concurrence
1 = psychotic symptoms dominate the clinical picture, although occasional affective disturbances may also occur
2 = psychotic and affective symptoms are in equilibrium; neither symptom group dominates the global course of the disease
3 = affective symptoms dominate the clinical picture, although occasional psychotic disturbances
may also occur
4 = as in 2 (see above), plus delusions or hallucinations for at least 2 weeks, but without
predominant affective symptoms

53. Increased sociability

1 = excessive familiarity
2 = loss of social inhibitions resulting in behavior that is inappropriate to circumstances and which is
not a normal part of the patient's character (duration of at least 1 week)
9 = one (excessive familiarity) or other (loss of social inhibitions) of the above, occurring for at least
4 days, but less than 1 week

54. Persecutory delusions

Includes all delusions with persecutory ideation.
0 = absent
1 = present
When scoring delusions, each one should be scored separately in its own category, describing the
specific type of delusion (persecutory, grandiose, influence/reference, bizarre, passivity, primary
delusional perception, other primary delusions, thought withdrawal, guilt, poverty or nihilistic).

55. Well-organized delusions:

Illness is characterized by a series of well-organized or well-systematized delusions.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified

56. Increased self-esteem

Patient believes that he or she is an exceptional person with special powers, plans, talents, or
abilities. Rate positively here if overvalued idea, but if delusional in quality also score item 57
(grandiose delusions).
8 = if duration is at least 2 days
9 = if duration is at least 4 days
1 = if duration is at least 1 week
2 = if duration is at least 2 weeks

57. Grandiose delusions

Patient has grossly exaggerated sense of his or her own importance, has exceptional abilities, or
believes that he or she is rich or famous, titled, or related to royalty. Also included are delusions of
identification with God, angels, the Messiah, etc (also see item 56).
8 = if duration is at least 2 days
9 = if duration is at least 4 days
1 = if duration is at least 1 week
2 = if duration is at least 2 weeks
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)

58. Delusions of influence

Events, objects, or other people in the patient's immediate surroundings have a special significance,
often of a persecutory nature; includes ideas of reference from the television, radio, or newspapers,
where the patient believes that these are providing instructions or prescribing certain behavior.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified
59. Bizarre delusions

Strange, absurd, or fantastic delusions whose content may have a mystical, magical, or "science
fiction" quality.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified

60. Widespread delusions

Delusions that intrude into most aspects of the patient's life and/or preoccupy the patient for most
of his or her time.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified
This item should be scored in addition to scoring the individual types of delusion.

61. Delusions of passivity

Include all "made" sensations, emotions, or actions. Include all experiences of influence where the
patient knows that his or her own thoughts, feelings, impulses, volitional acts, or somatic sensations
are controlled or imposed by an external agency.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified

62. The patient perceives something in the outside world that triggers a special, significant,
relatively non understandable belief of which he or she is certain and that is in some way loosely
linked to the triggering perception.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified

63. Other primary delusions

Includes delusional mood and delusional ideas. Delusional mood is a strange mood in which the
environment appears changed in a threatening way but the significance of the change cannot be
understood by the patient, who is usually tense, anxious, or bewildered. This can lead to a
delusional belief. A delusional idea appears abruptly in the patient's mind fully developed and
unheralded by any related thoughts.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified

64. Delusions and hallucinations lasting for 1 week

Any type of delusion accompanied by hallucinations of any type lasting 1 week (0, absent; 1,
present).
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with
success)
1 = present for any other length of time or duration is unspecified
This item should be scored in addition to scoring the individual types of delusion.
65. Persecutory or jealous content delusions accompanied by hallucinations of any type:

This is self-explanatory, but note that abnormal beliefs are of delusional intensity and quality and are accompanied by true hallucinations.

0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified This item should be scored in addition to scoring the individual types of delusion.

66. Thought insertion

The patient recognizes that thoughts are being put into his or her head that are not the patient’s own and have probably or obviously been imposed by an outside agency.

0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

67. Thought Withdrawal

The patient experiences thoughts ceasing in his or her head and may be interpreted as an external agency removing (or stealing) thoughts from his or her head.

0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

68. Thought broadcast

The patient experiences thoughts diffusing out of his or her head, in such a manner that they are shared with others or even experienced by others.

0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

69. Delusions of guilt

The patient maintains the firm belief that he or she has committed some type of sin or crime or has caused suffering to others despite the lack of any objective evidence whatsoever to support the belief.

0 = absent
1 = present

70. Delusions of poverty

The patient maintains the firm belief that he or she has lost all or most of their money or possessions and become poor, despite the lack of any objective evidence whatsoever to support the belief.

0 = absent
1 = present

71. Nihilistic delusions

The patient maintains the firm belief that that some part of his or her body has disappeared, rotted or is affected by a malignant or devastating disease, despite the lack of any objective evidence whatsoever to support the belief.

0 = absent
1 = present
72. Thought echo

Score 1 if the patient experiences thoughts repeated or echoed in his or her head. Score 2 if thoughts are repeated by a voice outside the patient's head.
0 = absent
1 = present

73. Third-person auditory hallucinations

Two or more voices discussing the patient in the third person. Score if either "true" or "pseudo-" hallucinations, i.e., differentiation of the source of the voices is unimportant.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

74. Patient hears voices describing his or her actions, sensations, or emotions as they occur. Score if there are possible "pseudo-" hallucinations, or definite (true) hallucinations.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

75. Abusive/accusatory/persecutory voices

Voices talking to the patient in an accusatory, abusive, or persecutory manner.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

76. Other (non affective) auditory hallucinations

Any other kind of auditory hallucinations; includes pleasant or neutral voices and nonverbal hallucinations (0, absent; 1, present).
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

77. Non affective hallucination

Hallucinations in which the content has no apparent relationship to elation or depression.
0 = absent
7 = present for a significant proportion of time over a period of 1 month (less if treated with success)
1 = present for any other length of time or duration is unspecified

78. Life-time diagnosis of alcohol abuse/dependence

Continued use, despite the knowledge of a persistent or recurrent social, occupational, psychological or physical problem that is caused or exacerbated by the use of alcohol; or recurrent use in situations which are physically prejudicial; or symptoms clearly indicative of dependence. One of the items described above must have occurred persistently for at least a month or repeatedly over a longer period.
0 = no
1 = yes

79. Life-time diagnosis of cannabis abuse/depend
Continued use, despite the knowledge of a persistent or recurrent social, occupational, psychological or physical problem that is caused or exacerbated by the use of cannabis; or recurrent use in situations which are physically prejudicial; or symptoms clearly indicative of dependence. One of the items described above must have occurred persistently for at least a month or repeatedly over a longer period.

0 = no
1 = yes

80. Life-time diagnosis of other abuse/dependence

Continued use, despite the knowledge of a persistent or recurrent social, occupational, psychological or physical problem that is caused or exacerbated by the use of other substances; or recurrent use in situations which are physically prejudicial; or symptoms clearly indicative of dependence. One of the items described above must have occurred persistently for at least a month or repeatedly over a longer period.

0 = no
1 = yes

81. Alcohol abuse/dependence with psychopathology

Abuse or dependence as defined in item 78 accompanied by any of the preceding items describing psychopathology.

0 = no
1 = yes

82. Cannabis abuse/dependence with psychopathology

Abuse or dependence as defined in item 79 accompanied by any of the preceding items describing psychopathology.

0 = no
1 = yes

83. Other abuse/dependence psychopathology

Abuse or dependence as defined in item 80 accompanied by any of the preceding items describing psychopathology.

0 = no
1 = yes

84. Information not credible

Patient gives misleading answers to questions and provides a jumbled, incoherent, or inconsistent account.

0 = absent
1 = present

85. Lack of insight

Patient is unable to recognize that his or her experiences are abnormal or that they are the product of an anomalous mental process, or recognizes that the experiences are abnormal but gives a delusional explanation.

1 = lack of insight 0 = insight present

86. Rapport difficult

Interviewer finds difficulty in establishing contact with the patient, who appears remote or cut off; does not include patients who are difficult to interview because of hostility or irritability.

0 = absent
1 = present
87. Impairment/incapacity during disorder

0 = no impairment  
1 = subjective impairment at work, school or in social functioning  
2 = impairment to the most important life role, with definite reduction in productivity and/or has been criticized for this  
3 = no function whatsoever in the most important life role for more than 2 days or hospitalization was necessary, or active psychotic symptoms occurred such as delusions or hallucinations

88. Deterioration from premorbid level of functioning

Patient does not regain premorbid social, occupational, or emotional functioning after an acute episode of illness.  
0 = absent  
1 = present

89. Schizophrenic symptoms respond to neuroleptics

Rate globally over the total period. Score positively if illness appears to respond to any type of neuroleptics (depot or oral) or if relapse occurs when medication is stopped.  
0 = symptoms do not respond  
1 = symptoms respond

90. Course of disorder

1= Single episode with good recovery  
4= Continuous chronic disease  
2= Multiple episodes with good recovery between each  
5= Continuous chronic disease with deterioration  
3= Multiple episodes with partial recovery between each  
This item should be scored in a hierarchical manner; for example: if the course of disorder was scored 2 in the past, and if it is scored 4 in the present, then the correct score is 4.