

Psyconsultant I: A DSM-IV-Based Screening Tool For Adult Psychiatric Disorders In Indian Rural Health Center

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Abstract

Computerized diagnostic tools have made havoc in medical science for last few decades. With the help of computerized expert tool, psychiatric illnesses can be diagnosed fast, with good accuracy rate and free from human bias. Moreover, in Indian rural health sectors, where psychiatrists are less in number, computerized screening tool could be extremely helpful for the general physicians to evaluate mental patients. The present tool, PsyConsultant I has a long questionnaire, covering eleven broad domains of psychiatric illnesses and their sub domains. The questionnaire is set with the guidance of qualified psychiatrists to incorporate clinical experiences along with DSM-IV nosology and is put together in a computer program using logical decision tree. Finally the performance of the tool has been tested on a large set of patients and its diagnostic accuracy rate is found to be over 55% (with some variations in individual domains) and having statistical significance level 0.05.

IMPORTANCE OF MENTAL HEALTH

World Health Organization (WHO) defined health “as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” [1]. Today's world has emphasized the importance of mental health, that, if disturbed, brings adverse physical, socio economic, cultural, and legal outcome. Another important reason for careful adoption of mental health could be the increasing trend of some mental illnesses, which are either primary or secondary. A common example is: premenstrual dysphoric disorders or PMDD can be assessed either from gynecology or psychiatric point of views or both [2]. Further, one's birth history [3], sex difference [4], age at onset of symptoms and age at first hospitalization [5], role of genetic [6] and biological factors [7], socio cultural and religious differences [8] etc. have made psychiatry awfully non-linear with multiple aetiopathologies. This is the enticing flavor of psychiatric research! None the less, an inherent tendency of psychiatric illnesses not to respond to the conventional treatment has added further attraction in psychiatry research.

Studies have shown that several mental illnesses are gaining higher trend in the population. The hypotheses behind such increment are: i) Neuroendocrinal factors have changed its way of responding to social and psychological stress over the past few years, for example, neurohormones are now hypersensitive to most of the triggering biological,

psychological and social stress factors [9], ii) Increment of other stress factors in the socio cultural purview [10] and alcoholism [11], and lastly, iii) Psychiatric patients (for e.g., schizophrenics) are in born hypersensitive to different kinds of stress, irrespective of their intensity and quality [12]. Therefore, the present society cannot thrive and mature without the proper care of mental health.

MENTAL HEALTH: THE COMPARISON BETWEEN THE WESTERN AND THE INDIAN SCENARIO

Western world has realized the importance of mental health sooner to cope up with the increased stress, related to accelerating dynamism, frequent socio economic transitions and increased professional competitions to cope up with the modern lifestyle, which have immense effects on one's mental faculty. So, slowly but inevitably, they have accepted issues of mental health as one of the most important components of their daily life. In contrast to the Western view, third world's realization, especially in India is extremely dismal. It is untrue that such socio economic stress or substance abuses or other relevant triggering factors for psychiatric illnesses do not prevail here. Rather, these triggering factors are enormously present with some additional disadvantages: a) lack of social awareness, b) prevailing social taboos, c) legal and socio cultural constraints, d) poor doctor-patient interaction due to less

number of psychiatrists, and e) lack of health care management infrastructure at par to the Western societies (e.g., computerization, database maintenance and record keeping, optimum psychiatric support from one's birth etc.). Moreover, bizarre psychiatric histories, varied clinical picture, prevailing unscientific traditional practice as treatment measure for mental diseases, iatrogenic affects (frequent use of the conventional and old antipsychotic drugs due to high cost factor of the newer antipsychotics) and therefore frequent treatment dropouts have made the psychiatric platform fragile and weak in India. As the psychiatrist-patient ratio is inconsistent, it is very difficult for the expert too, to concentrate on each case holistically, e.g., evaluating the personal and family history in detail, doing thorough physical examinations, laboratory investigations, psychometric tests etc. before arriving into a diagnosis. Thus a string of under or over diagnosis, erratic medications, bizarre patient-follow up, and rehabilitation measures are frequent coexistence in the psychiatric scenario in the third world countries including India.

BRIEF HISTORY OF INTERVIEW-BASED PSYCHIATRIC SCREENING TOOLS

Several interview program related to psychiatry and psychology are framed during last 45 years and the list is too long to be discussed here due to the lack of space and scope. So, let us see some popular tools in the following section of the present article.

Present State Examination or PSE by Wing and Giddens, 1959 [13], which is a clinical interview questionnaire for ratings the psychiatric symptoms reported by the patients during preceding month was probably the first interview-based screening tool, reported. Psychiatric Status Schedule or PSS (Spitzer et al, 1970) [14], a semi structured clinical interview in the frame of Current and past psychopathologic Scales (CAPPS) is of sufficient flexibility to permit the interviewer to explore areas of particular clinical significance as they emerge during the interview. Further, DIAGNO (Spitzer and Endicott, 1968) [15], modified CAPPS (Endicott and Spitzer, 1972) [16], Schedule for Affective Disorders and Schizophrenia or SADS by Endicott and Spitzer (1978) [17], and Structured Clinical Interview by DSM-III ® (Spitzer, 1983) [18] gained tremendous popularity.

DRAWBACKS OF THESE TOOLS

1. These tools are manual and so there are high

chances of error,

2. Very long questionnaire based,
3. Time taking, and
4. Chance of biasness and variations of interpretation related to the grading of a symptom from examiner-to-examiner.

Therefore, psychiatric testing systems have been computerized in the following ways:

COMPUTERIZING PSYCHIATRY: A BRIEF HISTORY OF SOME OF THE PIONEERING EXPERT TOOLS:

Applications of computers in the psychiatry research are not very recent ventures. The relevant research contributions, available, have been critically reviewed in the present subsection. The motto behind such an effort is to evaluate the diagnostic processes as well as identifying the fundamental basis of these ES.

Rialle and Ohayon (1991) [19] reviewed that automatic data processing techniques used for diagnosis aiding in psychiatry since 60's. They observed that in 1963, Keinmuntz [20] wrote a computer program (e.g., Minnesota Multiphasic Personality Inventory or MMPI) that could automatically interpret some psychiatric illnesses. The paper was published in 1975 with a catchy title "Computers as clinicians" in American Journal of Psychiatry. Probably that was the first positive clue to the development of ES to solve psychiatric problems prevailed in the clinical domain.

One year later, Pichot (1968) [21] performed a probabilistic diagnosis-based classification of psychiatric illnesses and Spitzer and Endicott (1968) [15] devised DIAGNO, based on standardized psychiatric questionnaire through yes/no logical flow chart. Later, DiaSika was one of the widely used varieties of the DIAGNO systems, used in Germany (Schmid et al. 1982) [22].

In 1974, Wing et al. (1974) [23] developed the CATEGO system from the present state of examination (PSE) nosology for psychiatric diagnosis, especially diseases with syndromic nature of presentation i.e. having multidimensional aetiologies, predisposing factors, clinical representations, treatment responses and varied prognosis (e.g., schizophrenia, an organic disease of brain). CATEGO system at that time was in its infancy until being modified

with artificial intelligence.

After one year of the advent of CATEGO, Harless and Templeton (1974) [24] presented the CASE system of psychiatric diagnoses for the medical students for revising their diagnoses with the help of this tool in clinical set up. Hence, the concept of computerized ES entered the hospital ward for practical use and the principle purpose ("computers as clinicians") was partially served. The following subsection has discussed in detail some of these tools with their components, advantages and disadvantages.

AIM AND OBJECTIVE

It is extremely difficult for the psychiatrists to memorize and implement diagnostic nosologies (e.g., DSM-IV, ICD-10 etc.) in their crowded chambers. Computerized interview-based screening systems execute expert knowledge, based on the long and detail diagnostic nosologies. Moreover, such tools make expert knowledge available for all users with diagnostic accuracies depending on the accurate and sufficient input. Due to the speed of the computer, its in-built logic unit and high memory capacity, computerized expert tools are useful techniques in underdeveloped sectors, lacking the required medical infrastructure, availability of specialists etc. to tackle complicated illnesses those need quick diagnosis and correct treatment measures to prevent long term devastations, e.g., psychiatric illnesses.

Another valid point in favor of using computerized tool is to reduce the human error and bias related to reasoning while making the diagnosis. Therefore, several mathematical and computational methods are tried from time to time to analyze the non-linear psychiatric data for quick and reasonable diagnosis. As fast but correct diagnosis and so the resumption of the necessary management is always preferred in medical science, the present chapter proposes to design an interview based screening tool for diagnosing adult psychiatric illnesses for i) quick human bias free screening or diagnosis, and ii) providing appropriate treatment in the context of Indian rural health sectors.

Finally as because psychiatric symptoms are sometimes difficult for patients to discuss, interviewing techniques such as normalization, symptom assumption and transitioning between topics may help put the patient at ease. This is more preferred when interview questionnaires are put inside a computer and patients need not discuss these with the doctor. It is therefore able to tackle the social taboo related hurdles in psychiatric illness. Such technique has been followed in

the present study.

MATERIALS AND METHOD

The relevant studies and the literature, discussed in the present article are obtained from various journal databases. These are available in the electronic form (e.g., MEDLINE/Cochrane Library and MEDSCAPE) and hard copies of various psychiatry and computer science journals. These are huge resource of information related to the interactive aspects of psychiatry and computer. The overall critical analysis of these studies have shown that the usefulness of computers in psychiatry are especially important in the three broad sections: a) to handle tremendous non-linearity of the psychiatric data, b) to make accurate and fast diagnosis and to provide treatment protocol, and c) to reduce the chance of human bias (biasness of the medical personnel and the paramedical staff) related to the diagnosis, treatment plan and follow up.

The present article thus proposes a computerized interview like questionnaire, based on yes/no heuristic search, partaking the principle of 'logical flow chart method using Diagnostic and Statistical manual of Mental Disorders (DSM-IV)-criteria depicted by American Psychiatric Association [25]. DSM-IV is used for setting clinical criteria for the diagnosis and management of psychiatric disorders. It is important to mention here that the tool is only be used by the doctors in their chamber and it's not made for any commercial reason or to be used by the patients themselves for the on-line counseling.

REASONS FOR INCLUDING LOGICAL FLOW CHART METHOD

The reasons for including logical flow chart method are as follows:

Questions based on 'yes' or 'no', set logically guide the controller to derive the desired answer,

1. This method does not depend on the large sample size,
2. Can be applied across the patient population,
3. Can provide diagnoses for the new patient population, and
4. Can be utilized for arriving into diagnosis without statistical manipulations and jargons.

REASONS FOR INCLUDING DSM-IV ALGORITHM

DSM-IV is an accredited methodology, depicted for the clinical psychologists and psychiatrists to study and treat their patients. It is a very popular tool practiced in India too.

Therefore, strict and careful inclusion of DSM-IV criteria has been done to a) reduce the human error related to the diagnosis and treatment plan for an illness; b) put the logic behind each diagnosis, and c) it is unanimous in nature. The questionnaire includes all the principle psychiatric illnesses in adult population barring the following areas:

1. Details of Medical, Surgical and Drug or Substance abuse or induced psychiatric symptoms,
2. Culture-bound psychoses,
3. Sexual Disorders,
4. Atypical Psychoses with no clear-cut diagnostic criteria, for e.g., Impulse Control Disorders and Relational problem or Physical or Mental Abuse-induced disorders.

The following diagram shows how clustering and sub clustering of psychiatry had been done based on DSM-IV criteria and Yes/No heuristics under the logical flow chart scheme (vide Fig. 3.1).

REASONS FOR USING PERL FOR CODE WRITING

Based on the (Yes/No) search the code has been written in Practical Extraction and Reporting Language (PERL) using multiple 'nested else-if logic' incorporating the interrelationships among the broad illness clusters. The reasons for using PERL are:

1. It is highly user friendly,
2. To handle the characters (symptom types) in an easier way,
3. It can run on Windows, UNIX and Linux operating systems, and
4. It has a common gateway interface (CGI).

DETAIL OF THE EXPERIMENT

The study has done in the following steps:

A. The whole psychiatry has been divided into 11 major sections (barring a few, mentioned in subsection 3.2). The major sections are as follows:

1= Delirium and related disorders, 2= Psychotic disorders, 3= Mood disorders and Depressive disorders not otherwise specified, 4= Anxiety Disorders of various types, 5= Somatoform Disorders, Factitious Disorder and Dissociative Disorders, 6= Eating Disorders, 7= Personality Disorders, 8= Social Phobia & Specific Phobia, 9= Gender Identity Disorders, 10= Psychosomatic Disorders, 11=Common Sleep Disorders.

B. For each sections, a detail questionnaire has been framed with the help of qualified psychiatrists (N=10), using their clinical expertise and the DSM-IV guidelines. The answers to the questions (i.e., the inputs) are either 'yes' or 'no',

C. The whole questionnaire is put into a computer program using if-else logic and this is the knowledge base for the tool. Based on these inputs, the controller is able to derive the appropriate diagnosis for the given symptoms and the required treatment protocol,

D. The computerized questionnaire is then tested on 550 'diagnosed patients' consisted of 50 patients per section to note how close the tool can diagnose psychiatric illness in adults,

E. Based on the diagnostic ability, some sections are modified by detailing the input questions, especially when the diagnostic accuracy for a particular section is less than 50%. The tool is then retested on the same set of patients to see the improvement (see Fig. 3.1. showing the comparison between the rough vs. modified tool), and

F. The improved tool is once again tested on undiagnosed patients (N=1000) in 10 other psychiatrist's chambers and their mean diagnosis for each major section is compared with the tool's diagnosis (see Fig. 3.2.).

Figure 1

Figure 1: Performance of the diagnostic tool on pre diagnosed psychiatric patients.

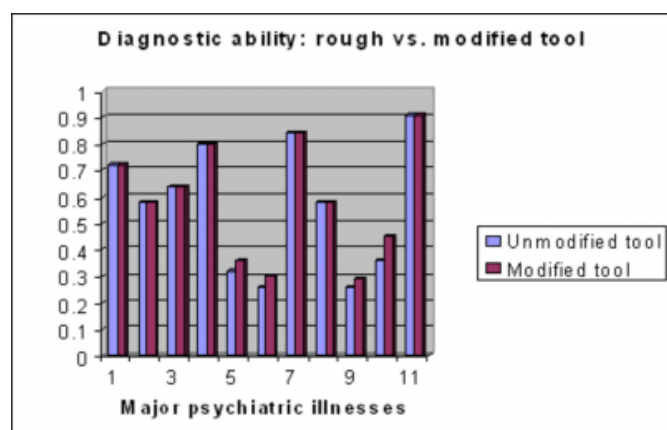
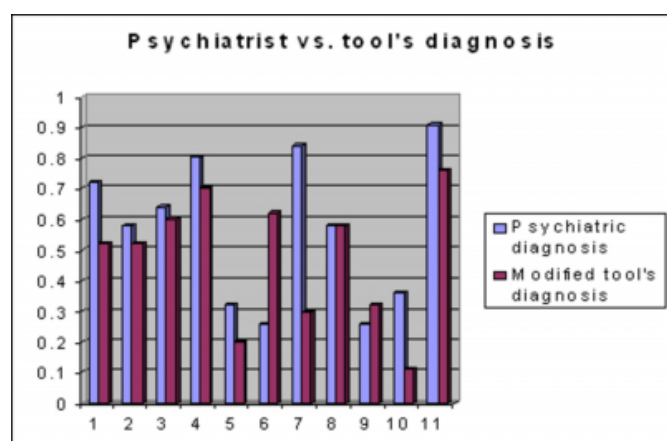


Figure 2

Figure 2: Showing the closeness of the tool's diagnostic ability compared to psychiatric diagnosis.



RESULT

HYPOTHESIS TESTING

The tool's diagnostic ability hypothesis has been tested against the psychiatrist's diagnosis using binomial equation:

$$Z = \frac{(X - np)}{\sqrt{npq}}$$

Where X = number of correct diagnosis, n = patient number, p = probability of getting the correct diagnosis (here, p = 0.5), and q = probability of not getting the correct diagnosis (here, it is designated as 1-p).

The alpha level (α) is the arbitrary level of significance that statisticians have chosen to distinguish probable from improbable for a hypothesis to substantiate. The alpha level chosen in Psychology is typically .05, with .01 or even .001 used in some circumstances. Here, we've chosen its level

.05.

The hypothesis is tested using the above equation available in the SPSS NONPAR TESTS module of SPSS BASE and it is found that the tool's diagnostic ability is not less than 55% with the statistical significance level 0.05 for each domain and the overall patient population.

A sample result is under annexure 1.

CONCLUSION

The computerized interview questionnaire is able to screen psychiatric illnesses according to the input given to it. Apart from screening, it is also able to render the treatment directive best suited for the illness, mode of treatment and cautionary note against the adverse effects of drugs. This is claimed to be the novel approach towards computerizing the health system, especially the diagnosis and treatment of the psychiatric cases.

As psychiatric data (personal, family, occupational and social history) keeping needs informed consent of the patients and their legal guardians, the present screening tool does not store such history and is free from the ethical tie. The advantages and disadvantages of the present tool are as follows:

ADVANTAGES

1. User-friendly,
2. Above 60% diagnostic accuracy, if the data fed to it is logical, total and reliable,
3. The diagnostic accuracy could be further increased if more detail explorative questions can be incorporated in the tool,
4. It is able to give the treatment plan in detail (including the cautionary measures while using the recommended drugs) for a case apart from its diagnostic accuracy,
5. Strictly follows the DSM-IV algorithms for mental illnesses and therefore almost nil manual error or bias in diagnosis,
6. Does not depend on the large sample size,
7. Can be applied across the patient population,
8. Provision for diagnoses for new patient population,

9. Using this tool we can assess indirectly the trend of psychiatric illnesses in the rural India,
 10. Easy utilization for diagnosing without statistical manipulations and jargons, and
 11. No need of filling of the whole questionnaire; rather, one can fill only the requisite areas, relevant to the signs and symptoms of the patient population.
4. It can interact with the user in natural language, and
 5. It justifies and explains its diagnostic conclusions.

DRAWBACKS

1. Extreme rigidity (only forward tracking facility and no facility for backtrack to summarize the inputs for the re-verification of the diagnosis),
2. As it is not intelligent, for any change (i.e., amendments) of data, majority of the code has to be manipulated,
3. The tool can not give the dual diagnosis which is not unusual in psychiatry,
4. Cannot evaluate the grade and prognosis of a case, and
5. Double blind control studies with large samples could be more accurate in assessing the performance of the tool for diagnosing the broad psychiatric domains and the illnesses under each broad domain.

FUTURE PROPOSAL

The present work proposes that a complex area like psychiatry can be better dealt as follows:

A. Decision making knowledge-based system could be a better choice because:

1. It is trainable because it can analyze data by itself, make strategy for a particular problem, and can give judgment based on the data fed to it,
2. It has highly optimized controller that makes the system rich, robust and malleable, mandatory to deal with the highly nonlinear psychiatric data,
3. Knowledge based systems with artificial intelligence has high ability for data acquisition, analysis and drawing inference,

B. The second option can be implementation of thorough and accurate record keeping for each patient through a WAN (Wide area network) connecting rural and sub divisional hospitals for facilitating evaluation of the tool-based diagnosis by psychiatrists [6]. This could be a very useful concept for the Indian rural health care system, especially the psychiatric health care, because the patients can be treated there in the rural hospital under the indirect guidance of the psychiatrists and the direct guidance of the expert diagnostic tool. The advantages are:

1. Reduces the number of referred patients,
2. Reduces the load of psychiatric set up and thus facilitating the thorough case evaluation and acknowledging proper treatment, follow up and rehabilitation, and
3. Detail epidemiological study to pry into the changing trends of mental health in the Indian rural population.

SUMMARY

Psychiatric diagnosis still remains a challenge in today's health care system due to: A. Heterogeneous data, B. Incompatible psychiatrist-patient ratio, C. Prevailing social taboo, D. Incremental trend of psychiatric illnesses, and most importantly, E. Clinical variations among psychiatrists regarding assessing a case. The present expert tool, though rigid and orthodox can mitigate the above-mentioned problems by a) streamlining the input data related to psychiatry by consulting the major sections and its subsections one by one (vide the sample result in annexure 1), b) supplementing the shortage of psychiatrists in the rural sectors, and c) rendering the scope of early and human bias free diagnosis and so resumption of the early treatment, especially in emergency cases. As the questionnaire is set with the guidance of qualified doctors along with the DSM-IV nosology, doctor's clinical experiences are also been incorporated and then put together in a computer program using if-else logic. Therefore it is presumed that the present tool has a good knowledge base of its own. Based on answers ('yes' or 'no'), the performance of the tool has been

tested first on the diagnosed patients (N=550). Based on diagnostic error, corrections are done in the questionnaire to improve its diagnostic accuracy. The modified tool is then tested on the undiagnosed patients (N=550) and matched with a set of psychiatrists (n=6) to whom the diagnoses were not known. The tool's diagnosis is compared with the mean diagnosis of the psychiatrists to substantiate the hypothesis. The over all diagnostic accuracy rate of the tool is over 55% with some variations in individual domains with the statistical significance 0.05. Interview-based diagnostic tool is a novel approach and extremely beneficial in rural hospitals of India to diagnose and treat especially the first reported adult psychiatric cases. Relative cost effectiveness and easy installation in the rural hospitals of India can share a lion share of the psychiatric load in the psychiatric hospitals in the cities. Finally it is to state that if installed in rural hospitals, PsyConsultant I will be the pioneering tool and the last but not the least, PsyConsultant I can be tested even in the psychiatric hospitals by the nurses, internists and specialists for cross checking their diagnosis or to get a clue for diagnosing a difficult case.

ANNEXURE 1

Compilation in the UNIX/Linux platform and the output (result), based on the input (yes=>0 and No=0) given to the questions is as follows:

```
[doctor@sit-dhcp-10-14-98-243 Documents]$ perl  
filename.pl
```

The following tool is meant for DOCTORS who are NOT qualified psychiatrists.

The tool is based on the DSM-IV criteria for Psychiatric Disorders based on DSM-IV diagnostic criteria, except Organic Personality Disorder, based on ICD-10(Source: Synopsis of Psychiatry Behavioral Sciences Clinical Psychiatry 7th Edition)

The tool is able to infer tentative diagnoses of general psychiatric illnesses, its grading and their brief treatment outline in ADULTS. The tool has EXCLUDED:

- *Details of Medical, surgical and drug or substance abuse induced psychiatric symptoms
- *Culture-bound psychoses,
- *Sexual Disorders, and
- *Some Atypical Psychoses with no clear-cut diagnostic

criteria, for e.g., Impulse Control Disorders and Relational problem or Physical or Mental Abuse-induced disorders.

SECTION ONE: Delirium, Dementia, Cognitive and Amnesic Disorders:

Qs. 1.Does the patient has any fluctuating disturbances of consciousness, language, memory or orientation to time, space or person of few hours or days?(0=No & >0=yes)

0

Qs. 2. Is there any evidence of multiple cognitive deficits (i.e., memory impairment plus either language disturbances/impaired motor activities despite of intact motor function/improper or no recognition of the objects despite of intact sensory functions/disturbances of the executive functioning?)(0=No and >0=yes)

0

Qs. 3. Is the course chronic and continuous but do not occur during the course of delirium?(0==No and >0=yes)

0

Qs. 4. Does the condition meets the criteria of CNS or systemic diseases?(0=No & >0=Yes)

0

Qs. 5. Is there any focal neurological signs and symptoms?(0=No & >0=yes)

0

Qs. 6. Are the recent or the past or the both the memories impaired but never occur during the course of delirium?(0=No & >0=yes)

0

SECTION TWO: Psychotic disorders:

Criteria A for schizophrenia are:

- 1.Hallucination
- 2.Delusion
- 3.Disorganized speech
- 4.Grossly disorganized or catatonic behavior
- 5.Negative thoughts (Alogia, Affective flattening and

Avolition)	0
Qs. 1. Does the symptoms meet criteria A of schizophrenia? (0=No & >0=yes)	Qs.11.Are the symptoms of criteria A for schizophrenia are very prominent?(0=NO and >0=yes)
1	1
Qs 2. Enter the minimum day(s) of symptom(s) belongs to criteria A for schizophrenia:	Qs.12.Are the symptoms continuously persisting in an attenuated form?(0=No and >0=Yes)
34	0
Qs 3. Enter the minimum number of symptom(s) belongs to criteria A for schizophrenia:	Qs.13.Is the onset of the symptoms of criteria A for schizophrenia after 45 years?(0=NO and>0=Yes)
2	1
Qs 4. Is the symptom only auditory hallucination (Running commentary)? (0=No & >0=Yes)	Qs.14.Is the patient showing a debilitating course?(0=No and >0=Yes)
1	1
Qs 5. Is the symptom only bizarre delusion (About objects not found in reality)? (0=No & >0=Yes)	Qs.15.Does the patient show a progressively deteriorating course of illness with a well-systematized delusion?(0=NO and >0=Yes)
1	1
Qs 6. Is the symptom only non-bizarre delusion (About objects found in reality)? (0=No & >0=Yes)	Qs.16.Is the patient characterized with symptoms of pananxiety, panphobia, panambivalence or chaotic sexuality?(0=NO and >0=Yes)
0	0
Qs 7. Is there any SHARING of the similar delusion from a CLOSED RELATIVE who already has established delusion? (0=no & >0=yes)	Qs.17. Is the patient complexed and not fully awakening state or dream-like state?(0=No and >0=Yes)
0	0
Qs.8. Does the patient show preoccupation with one or more delusions or frequent auditory hallucination?(0=No and >0=Yes)	SECTION THREE: Mood disorders and Depressive disorders not otherwise specified:
0	The criteria for Major Disorder are:
Qs.9. Are disorganized speech, disorganized behavior and flat affect are prominent symptoms?(0=NO and >0=Yes)	1.Markedly diminished interest or pleasure
0	2.Depression
Qs.10.Are more than two of the following symptoms present?: motor immobility or cataplexy or stupor, Excessive purposeless and unstimulated motor activities, extreme negativism, peculiar posturing or stereotype movements or excessive mannerisms or prominent grimacing, and echolalia or echopraxia? (0=No and >0=Yes)	3.Significant weight loss/gain (almost 5% of the total body weight in a month)
	4.Insomnia/Hypersomnia almost everyday
	5.Psychomotor Agitation/Retardation
	6.Fatigue

7. Feeling of worthlessness or inappropriate guilt	0
8. Lack of concentration throughout the day	Qs.4. Do the symptoms are related to adjustment problem?(0=No and >0=Yes)
9. Recurrent thoughts of Death or suicidal ideation without specific plan	0
The criteria for Manic Disorder are:	Qs 5. How many symptom(s) of MOOD DISORDER associated?
1. Inflated self-esteem	3
2. Decreased need for sleep	Qs.6. Are the symptoms mostly depressive throughout from the beginning?(0=No & >0=yes)
3. Talkativeness	0
4. Insomnia/Hypersomnia almost everyday	Qs 7. What is the minimum duration of mood disorder-symptoms?
5. Psychomotor Agitation/Retardation	7
6. Flight of ideas	Qs 8. Are the symptoms of Major depressive and Manic depressive co-associated? (0=No & >0=Yes)
7. Distractability	0
8. Increased goal-directed activities	Qs 9. Are the symptoms better accounted for by BEREVEMENT (loss of a beloved one within two months)? (0=no & >0=yes)
9. Increased involvement of pleasurable activities, may have grave consequences	0
The criteria for Dysthymic Disorder are:	Qs 10. Is the mood symptom a very prominent one? (0=No & >0=Yes)
1. Poor or over-eating	1
2. Reduced or excessive sleep	Qs. 11. Do the symptoms develop within 90 days of the onset of identifiable stressors?(0=NO and >0=Yes)
3. Fatigue	0
4. Poor self-esteem	Qs 12. Do the symptoms COMPLETELY REMIT anytime during the sufferings? (0=no & >0= yes)
5. Poor concentration or making decision	0
6. Feeling of Hopelessness	Qs. 13. Do the symptoms completely remit within the six months of the termination of such stressors? (0=No and >0=Yes)
Qs 1. Are any symptom(s) of MOOD DISORDER associated? (0=no & >0=yes)	0
1	Qs 14. Is (are) the symptom(s) directly caused by
Qs.2. Do the symptoms of such mood disorders are present in most of the menstrual cycles for last one year?(0=No and >0=Yes)	
0	
Qs.3. Do the symptoms of mood disorder are present only prior to the menstrual period, especially during the luteal phase?(0=No and >0=Yes)	

GENERAL MEDICAL CONDITIONS?(0=NO & >0=YES)

0

Qs 15. Is (are) the symptom(s) directly caused by DRUG OR SUBSTANCE INTAKE OR ABUSE? (0=NO & >0=YES)

0

Qs 16. Is there any PROGRESSIVE DECLINE in the social, occupational or academic functioning? (0=no & >0=yes)

1

Qs 17. Is there any gradual deepening of the NEGATIVE SYMPTOMS (ALOGIA, AFFECTIVE FLATTENING AND AVOLITION)?(0=NO & >0=YES)

0

Qs 18. Mention the total duration of the social, occupational, academic decline and deepening of the negative symptoms(0=No and >0=Yes)

0

Qs 19. Is the symptom (usually depression) occurring during the residual phase of schizophrenia? (0=No & >0=Yes)

0

Qs 20. Is there any loss of insight? (0=No & >0=Yes)

0

SECTION FOUR: Anxiety Disorders of various types

Qs. 1. Is the patient Anxious most of the time of the day?(y=>0 & 0=No)

0

The symptoms of Generalized Anxiety Disorder are:

1.Restlessness

2.Easy-Fatigability

3.Poor concentration

4.Irritability

5.Muscle tension

6.Sleep disturbances

Qs. 2. Does the patient apprehensively expect the occurrence

of excessive worries for more than 6 months?(0=No & Yes=>0)

0

Qs. 3. Does the patient has at least three of the above-mentioned symptoms?(0=No & Yes=>0)

0

The symptoms of Panic Attack are:

1.Palpitation

2.Sweating

3.Trembling

4.Shortness of breath or smothering feelings

5.Chest pain

6.Nausea and abdominal distress

7.Fainting attack

8.Feeling of unreality or detachment from oneself

9.Fear of losing control

10.Fear of death

11.Numbness or hot flushes

Qs. 4. Is there any history of Panic Attack i.e., development of four or more of the above symptoms during the attack?(0=No & Yes=>0)

0

Qs. 5. Does the patient has recurrent and persistent thought during most of the time of the day?(y=>0 & 0=No)

0

Qs. 6. Is the thought simply an exaggeration of the real-life problems?(0=No & yes=>0)

0

Qs. 7. Does the person realizes that the recurrent thoughts are originated out of his own and not imported?(No=0 & >0=Yes)

0

Qs. 8. Do the patient try to get rid of the thought by trying to

concentrate at other things or acting something else repetitively?(No=0 & Yes=>0)

0

Qs. 9. Do the patient realize that his/her thoughts are above normal and unreasonable?(No=0 & Yes=>0)

0

The symptoms of Post Traumatic Stress Disorder are:

1. A subjective sense of numbing, detachment, or emotional non-responsiveness

2. Feeling of being in a daze

3. Derealization

4. Depersonalization

5. Dissociative Amnesia or not being able to recall some part of the event

Qs. 9. Does the patient have the history of exposure to any traumatic event leading to emergence of intense horror?(y=>0 & No=0)

0

Qs. 10. Does the patient still being indirectly exposed to such event by recurrent images, thoughts, noises, illusions, flashbacks or in dreams?(0=No & >0=Yes)

0

Qs. 11. Does the patient develop anxiety apprehending the indirect exposure of the related things to the event and intensely try to avoid being exposed to something those can trigger such horror indirectly or directly?(0=No & >0=Yes)

0

Qs. 12. Does such disturbance last minimum for 2 days and maximum for 4 weeks?(Yes=>0 & 0=No)

0

Qs. 13. Does the symptom appear within 4 weeks of the traumatic event?(Yes=>0 & 0=No)

0

SECTION FIVE: Somatoform Disorders, Factitious Disorder and Dissociative Disorder

The symptoms of Somatization Disorder are:

1. Four pain symptoms

2. Two GIT-related symptoms

3. One sexual symptom

4. One pseudo-neurological symptom

Qs. 1. Does the patient meet the above-mentioned multiple symptoms anytime during the disturbances?(Y=>0 & 0=No)

0

Qs. 2. Does the patient first present the disturbances before 30 years of age?(Y=>0 & No=0)

0

Qs. 3. Are the symptoms feigned?(yes=>0 & No=0)

0

Qs. 4. Is the patient seems to be feigning the symptoms?(Y=>0 & No=0)

0

Qs. 5. Is there any chance of getting incentive out of feigning?(Yes=>0 & No=0)

0

Qs. 6. Does the patient remember personal things?(Yes=>0 & No=0)

0

Qs. 7. Is it ordinary forgetfulness?(Yes=>0 & No=0)

0

SECTION SIX: Eating Disorders

Qs. 1. Is the patient worried about increasing of body weight and for that he/she is refusing to take even normal food?(Yes=>0 & NO=0)

0

Qs. 2. Is the patient reluctant to maintain his/her weight at or above a minimally normal?(Yes=>0 & No=0)

0

Qs. 3. Is the patient denial of his/her very low body

weight?(Yes=>0 & No=0)

0

Qs. 4. Does the patient has recurrent habit of binge eating (uncontrollable more than normal food intake during a very short time)at least twice a week for three months?(Yes=>0 & No=0)

0

Qs. 5. Recurrent inappropriate behavior in the fear of gaining weight as a result of huge food- intake(Yes=>0 & No=0)

0

SECTION SEVEN: Personality Disorders

The symptoms of Paranoid Personality Disorder are:

- 1.Unreasonable suspiciousness
- 2.Preoccupied with unjustified doubts
- 3.Reluctant to confide in others
- 4.Reads threatening meaning to oneself
- 5.Persistent bearing of grudges
- 6.Perceives attack on him/her character
7. Infidelity without proper justification.

Qs. 1. Is the patient has four or more of the above-mentioned symptoms in the section of Paranoid Personality Disorder? (0=No and >0=Yes)

0

The symptoms of schizoid Personality Disorder are:

- 1.Neither desires nor enjoys closed relationships
- 2.Engrossed with solitary activities
- 3.Little or no sexual experiences
- 4.Almost no pleasure-feeling
- 5.Lacking of closed friends
- 6.Indifferent to the praise or criticism of others
7. Emotional coldness or flattening.

Qs. 1. Is the patient has four or more symptoms, mentioned in the schizoid personality disorder? (0=No and >0=Yes)

0

The symptoms of schizotypal Personality Disorder are:

- 1.Eccentric behavior
- 2.Ideas of reference, not delusion-origin
- 3.Odd beliefs or magical thinking
- 4.Bodily illusions
- 5.Odd thinking and speech
- 6.Suspicious or paranoid ideations
- 7.Inappropriate or constricted affect
- 8.Lacking of closed friends
- 9.Excessive social anxiety.

Qs. 1. Is the patient has five or more symptoms, mentioned in the schizotypal personality disorder? (0=No and >0=Yes)

0

The symptoms of Histrionic Personality Disorder are:

- 1.Uncomfortable in the situations where he/she is not the centre of attention
- 2.Inappropriate behavior or provocative sexual gestures for drawing attention
- 3.Rapidly shifting or shallow expression of emotions
- 4.Consistently drawing physical attention to oneself
- 5.Impressionistic style of speech having shallow content
- 6.Self-dramatization or theatrical appearance
7. Easily influenced by others or circumstances
- 8.Considers relationship to be more intimate than what is actual.

Qs. 1. Is the patient has five or more symptoms, mentioned in the section of Histrionic behavior? (0=No and >0=Yes)

0

The symptoms of Narcissistic Personality Disorder are:

1. Grandiose sense of self-importance
2. Preoccupied with immeasurable ocean of success, power, beauty etc
3. Believes that he or she the special and can only be understood by the class at per
4. Requires excessive admiration
5. Has a sense of entitlement
6. Interpersonally exploitative
7. Lacks empathy
8. Often envious of others
9. Haughty behavior or attitude.

Qs. 1. Does the patient has five or more symptoms, mentioned in the section of Narcissistic personality disorder?(0=No and >0=Yes)

0

The symptoms of Borderline Personality Disorder are:

1. Frantic effort to avoid real or imagined abandonment
2. Extreme idealization and devaluation
3. Identity disturbance
4. Bodily illusions
5. Self-damaging impulsivity
6. Recurrent suicidal behavior
7. Fluctuating affect due to marked mood reactivity
8. Chronic feelings of emptiness
9. Uncontrollable anger
10. Transient stress-related paranoid ideations or severe dissociative symptoms.

Qs.1. Is the patient four or more of the criteria mentioned in the section of Borderline Personality disorder? (0=No and >0=Yes)

0

The symptoms of Antisocial Personality Disorder are:

1. Violation of the others rights since 15 years of age
2. Failure to conform to social laws
3. Deceitfulness
4. Impulsivity or failure to plans ahead
5. Physical violence due to excessive aggression or irritability
6. Reckless disregards of safety to self and others
7. Consistent irresponsibility
8. Lack of remorse after hurting somebody physically.

Qs. 1. Is the patient has three or more symptoms, mentioned in the Antisocial personality disorder? (0=No and >0=Yes)

0

The symptoms of Dependant Personality Disorder are:

1. Indecisiveness
2. Others to take responsibilities in almost all the major parts of his or her decision
3. Fear out of apprehension that he or she may loose support or approval of others
4. Difficulty in initiating projects
5. Doing unpleasant things to get the support of others
6. When alone feels uncomfortable
7. Urgently seeks another relationships as source of care
8. Being afraid of being left by the care-givers.

Qs. 1. Does the patient has five or more symptoms, mentioned in the section of Dependant personality disorder?(0=No and >0=Yes)

0

The symptoms of Obsessive Compulsive Personality Disorder are:

1. Preoccupied with detail rules or schedules
2. Perfectionism in task completion
3. Excessively occupied with the productive activities at the expense of friends and leisure hours

4. Scrupulous and over conscious regarding values and morals

5. Unable to discard the worthless objects

6. Reluctant to delegate tasks unless the tasks are completed according to his or her mind set

7. Shows rigidity and stubbornness

8. adopts miserly spending style regarding to the self and others.

Qs. 1. Does the patient has four or more symptoms, mentioned in the section of Obsessive-Compulsive personality disorder? (0=No and >0=Yes)

0

The symptoms of Passive-aggressive Personality Disorder are:

1. Passive resistance to fulfill routine social works and occupational tasks

2. The patient complains of being misunderstood or unappreciated by others

3. Argumentative

4. Unreasonably criticizes or scorns authority in his work place

5. Envious towards other fortune

6. persistent complain of being misfortune

7. Alternate between hostile defiance and contrition.

Qs. 7. Does the patient has four or more of the criteria mentioned in the section of Passive-Aggressive personality disorder? (0=No and >0=Yes)

0

The symptoms of Organic Personality Disorder are:

1. Decline in goal-directed activities that are of longer duration and delays having gratification

2. Altered emotional lability

3. Crave for things without thinking its social consequences

4. Cognitive disturbances in the form of suspiciousness and

paranoid ideations

5. Much alteration of the rate of language flow or production

6. Altered sexual behavior.

Qs. 1. Is the patient has two or more symptoms, mentioned in the Organic personality disorder? (0=No and >0=Yes)

0

The symptoms of Avoidant Personality Disorder are:

1. Decline in interpersonal contact

2. Avoiding mixing with people unless being liked

3. Fear of being shamed or ridiculed

4. Preoccupied with being criticized

5. Inhibition to face new interactions

6. View self as socially inept

7. Unusually reluctant to take personal risks.

Qs. 1. Is the patient four or more of the criteria mentioned in the section of Avoidant Personality disorder? (0=No and >0=Yes)

0

SECTION EIGHT: Social Phobia & Specific Phobia.

The symptoms of social phobia are:

1. Fearfulness in social situations

2. Avoiding social situations to prevent undue anxiety

3. Able to recognize the fear as unreasonable

4. Anxious anticipations of social situations

5. Inhibition to face new interactions.

Qs. 1. Does the patient has above symptoms? (0=No and >0=Yes)

0

Qs. 2. Is the phobia is due to specific object or situation? (0=No and >0=Yes)

0

SECTION NINE: Gender Identity Disorders.

The symptoms of Gender Identity Disorder are:

1. Stated desire to be in the other sex
2. Persistent discomfort with its own sex
3. The disturbance is not concurrent with the physical intersex conditions.

Qs. 1. Is the patient sexually attracted to the males/females/both/neither?(0=No and >0=Yes)

0

Qs. 2. Is the patient not comfortable with its own gender? (0=No and >0=Yes)

0

Qs. 3. Does the patient have physical intersex? (0=No and >0=Yes)

0

SECTION TEN: Psychosomatic Disorders:

Qs.1.Do the psychological factors affect the recovery from the associated Medical Condition?(0=NO and >0=Yes)

0

Qs.2.Do the psychological factors interfere with the treatment of the associated Medical illness?(0=NO and >0=Yes)

0

Qs.3.Do the psychological factors precipitate or exacerbate the symptoms of General Medical Condition?(0=No and >0=Yes)

0

Qs.4.Do the psychological symptoms constitute additional risk to the existing Medical Illness?(0=No and >0=Yes)

0

SECTION ELEVEN: Common Sleep Disorders:

Qs.1. Does the patient face problem to initiate or maintain sleep at least for one month?(0=No and >0=Yes)

0

Qs.2.Does the patient face excessive sleepiness almost throughout the day at least for one month?(0=No and >0=Yes)

0

Qs.3.Does the sleep disturbance lead to day time fatigue?(0=No and >0=Yes)

0

Qs.4.Is there any history of irresistible attack of sleep for at least of 3 months?(0=No and >0=Yes)

0

Qs.5.Is there any sudden loss of muscle tone associated with emotion?(0=No and >0=Yes)

0

Qs.6.Is the sleep disturbance associated with the breathing related problem?(0=No and >0=Yes)

0

Qs.7.Is the sleep disturbance show a circadian pattern of disturbances?(0=No and >0=Yes)

0

The possible diagnosis is: Functional psychosis (MANIC TYPE)

The possible *EMERGENCY TREATMENT is:
hospitalization, inj.largactil [50 mg. in 2ml amp] OR inj. Serenace [5 mg. in 1 ml amp]- 1 amp. Im/iv stat

*PRECAUTIONS: cardiovascular and respiratory problems, pregnant woman, parkinson's disease, glaucoma, epileptic fits etc.

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