CHAPTER 9

MOOD ELEVATION DISORDERS

Happiness

Doctors are trained by first studying healthy organs and then studying diseased organs. One needs to first understand the structure and function of the healthy liver if one wants to understand cirrhosis. Psychiatry deals with disordered mental life, but we don't have a complete understanding of healthy mental life. Psychological research provided tests of cognitive functions, and this allowed the determination of "normal ranges" of cognitive function. Psychoanalysis gave us the brief but useful notion that "normal" is indicated by the ability "to work and love". Religious leaders have made helpful suggestions. But we have not had much of "a handle" on normal happiness.

Over the last few decades, social psychologists have been studying happiness and have made some progress (Diener et al, 1999).

Subjective well-being (SWB) is a general area of scientific interest, rather than a single specific construct. SWB has been conceptualized as being composed of pleasant affect (feeling state), unpleasant affect and life satisfaction. For our purposes (albeit a simplification), SWB can be equated with happiness (Diener et al, 1997). The most commonly used SWB assessment technique is the "Happiness scale". The field quickly becomes complicated, however, as we would like to know about both current and long term happiness.

There is evidence that greater happiness is associated with being married, religious, extraverted and optimistic. Gender does not appear to be as important as was once believed. Wealthier people a consistently found to be happier than poorer people, but the effects are small. But, when all of the demographic factors taken together they do not account for much variance in SWB.

Moderately high variance in long-term SWB is attributable to genetics (Lykkenn and Tellegen, 1996). This is unsurprising, as we know genetics strongly influences temperament and personality. Of course, the environment is also important. Other major influences include our ability to adapt and set goals. The ability to adapt is a boon when it comes to adjusting to a loss, but also a drawback, as when a new 4-weel drive makes us happy, but only briefly. Goals can be helpful, even if they are unachievable, as long as progress is being made toward them. Evidence suggests that some individuals are by nature (genetics, temperament, personality) happier than others and efforts to alter the settings, while they should not be abandoned, should be approached with modest expectations.

Introduction to pathological mood elevation

Low mood takes many forms. It may be difficult to be sure whether an individual who is looking and sounding unhappy is suffering a pathological mood disorder.

In general, pathological mood elevation is less difficult to identify. There is an unusual amount of energy: the individual moves, smiles and talks more, and more rapidly than usual (along with other symptoms). While most of us have times when we lack energy, few of us times when we have excessive energy.

Pathological mood elevation is conceptualized as two levels: mania (the higher level), and hypomania (under or less than mania). Hypomanic symptoms may occur in both bipolar disorder and the elevated phase of cyclothymia. As these are matters of degree and judgement, in a particular case, and clinicians may disagree on the most appropriate designation. The important issue it to identify when treatment is indicated, and to provide that treatment.

Mood elevation often presents with euphoria, disinhibition and excessive friendliness.

Illustration. A middle aged woman was admitted with mania. While on the ward she used acrylic paint to adorn her jeans with word including Joy, Love, Peace, Kindness and Patients. Across the seat she painted “I love (indicated by a symbol of a heart) life”. These additions reflected her euphoria, but also her lack of inhibition and poor judgement. When she recovered she regretted ruining new and expensive clothing (which she had purchased during a manic buying spree). She later died by suicide.

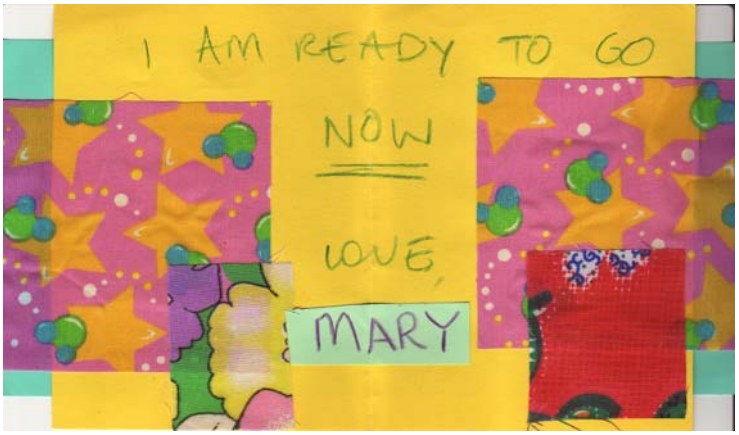
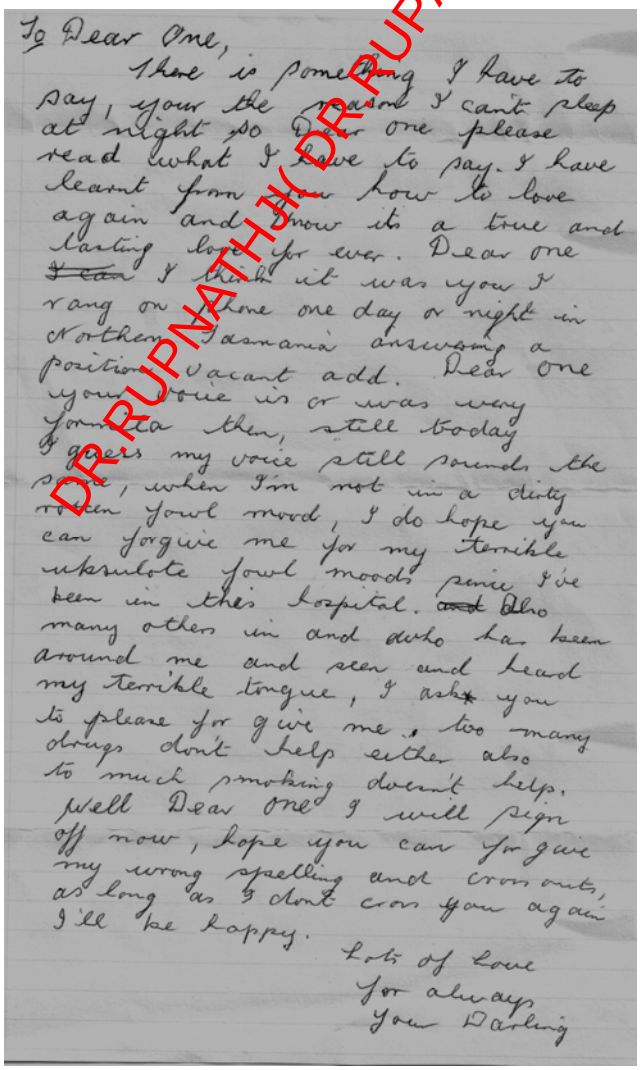


Illustration. A manic female went to an occupational therapy session and made a card for her doctor, which stated she was ready to leave hospital. The construction (different coloured papers and pieces of bright cloth) contradicted her written message.

A point to remember, however, is that mood elevation may presently quite differently, with irritability and demanding behaviour (Illustration). Irritability often emerges later in an episode of mania (perhaps in response to clinicians obstructing patient wishes), but it may manifest as an early feature.


To Dear One,

There is something I have to say, your the reason I can't sleep at night so Dear one please read what I have to say. I have learnt from you how to love again and know its a true and lasting love for ever. Dear one ~~I can~~ I think it was you I rang on phone one day or night in Northern Tasmania answering a position Vacant add. Dear one your voice is or was very Jamaica then, still today I guess my voice still sounds the same, when I'm not in a dirty rotten fowl mood, I do hope you can forgive me for my terrible ~~absulote~~ fowl moods since I've been in this hospital. ~~and~~ Also many others in and out has been around me and seen and heard my terrible tongue, I ask~~e~~ you to please for give me, too many drugs don't help either also to much smoking doesn't help. Well Dear one I will sign off now, hope you can for give my wrong spelling and cross outs, as long as I don't cross you again I'll be happy.

Lots of Love
For always
Your Darling

Illustration. An unsolicited letter from a woman with mania to a male member of the hospital staff. This staff member was not involved in the care of the patient, and they had not been introduced. Thus, the endearments at the beginning and end of the letter indicate disinhibition. The patient reports being unable to sleep at night (a common manic symptom). An important feature is that the patient is apologising for episodes of irritability: “I do hope you can forgive me for my terrible absolute fowl moods” and “my terrible tongue, I ask you to please forgive me”.

As mentioned in Chapter 6, the form of thought may be abnormal. Flight of ideas is common, occasionally with clanging or punning. Thought and behaviour may be chaotic and uncharacteristic for the individual.

Illustration. A middle aged woman who had been successful in business was admitted to hospital in a manic state. An intimate relationship had recently ended, and there was advice from relatives that her partner had left the relationship with an unjustifiably large amount of money. The patient demonstrated thought disorder, but was able to indicate that she had put money in her vagina. This was retrieved. It was a in the form of a role, about the size of a cigarette. It was secured with rubber bands. As the patient was manic it was not surprising that she had used various different brightly coloured bands. She insisted that this was rational behaviour. When the role was opened, it contained $200. On the wrapping paper was written, “The hole in the Wall”. This term is used in some parts of the world to indicate an ATM, from which one obtains money. Some links can be made here: the vagina is a hole, and the intimate partner was believed to have taken some of the patient’s money. When the woman recovered her money was returned, but she was not asked for a full explanation. This would have been embarrassing and achieved nothing. She would probably have had only a vague, if any, memory of the events, and no clear explanation.

It can be difficult to distinguish between particular personality types and low levels of pathological mood elevation. Examples include 1) the narcissistic personality type in which there is a pervasive pattern of grandiosity, a sense of entitlement (unreasonable expectation of preferential treatment) and lack of empathy, 2) the histrionic personality type in which there is excessive sexually provocative and attentional seeking behaviour, 3) the borderline personality type in which there instability of interpersonal relationships and impulsivity, and 4) the antisocial personality type in which there is irritability, exploitation and disregard for the rights of others.

It may be difficult to differentiate mood elevation from Attention-Deficit/ Hyperactivity Disorder (ADHD) which is described most frequently in children but may occur in adults. Here there is distractibility, increased activity and sleeplessness, but true mood elevation is absent. The differentiation may be more difficult in adults who are receiving stimulants as treatment for ADHA.

Diagnosis is also difficult when the individual is co-morbid (more than one morbidity/diagnosis at the same time) with a mood elevation and a Cluster B personality disorder (narcissistic, histrionic, borderline or antisocial personality disorder).

Mood elevation may result from illegal drug use, in particular, stimulants. It may manifest as a feature of steroid treatment, thyrotoxicosis and multiple sclerosis.

Mood elevation may present with psychotic symptoms, delusions and hallucinations. Mania has features of psychosis in about 10% of cases.

Manic episode

The DSM-IV diagnostic criteria for a manic episode:

A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood, lasting at least one week (or any duration if hospitalization is necessary).
B. During the period of mood disturbance, at least 3 of the following symptoms have persisted (4 if the mood is only irritable) and have been present to a significant degree.
    1. Inflated self-esteem and grandiosity
    2. Decreased need for sleep
    3. More talkative than usual or pressure to keep talking
    4. Flight of ideas or subjective experience that thoughts are racing
    5. Distractibility
    6. Increase in goal-directed activity or psychomotor agitation
    7. Excessive involvement in pleasurable activities which have a high potential for painful consequences (unrestrained buying sprees, sexual indiscretions, foolish business investments)
C. Mood disturbance sufficiently severe to cause marked impairment in occupational functioning or in usual social activities or relationships with others, or to necessitate hospitalization to prevent harm to self or others.

Hypomanic episode

By definition, the hypomanic episode is less severe than a manic episode. DSM-IV has attempted to quantify this difference.

Rather than being present for 1 week, the diagnostic criteria state that hypomania need be present for only 4 days. The need for 3 or 4 of 7 listed symptoms remains unchanged. The main difference is that: "*The episode is not severe enough to cause marked impairment in social or occupational functioning, or to necessitate hospitalization, and there are no psychotic symptoms*".

Bipolar disorder

Bipolar disorder is the term used to describe a disorder (possibly a range of disorders) in which marked mood elevation is a feature. Prevalence estimates suggest 1.5-3.0% of the population suffer bipolar disorder (Narrow et al, 2002). It is the sixth leading cause of disability worldwide (Murray &Lopez, 1996).

Manic episodes can be accurately diagnosed. There is intense research into bipolar disorder. Unfortunately, people with bipolar disorder often feel well (too well) and lack insight, and may be over active and unable to co-operate with researchers. Also, this is a heterogeneous disorder, and different forms may be underpinned by different processes.

The sub-classification into Bipolar I and Bipolar II disorders is in currently used in research. However, for the purposes of the DOP, this distinction is relatively unimportant.

Bipolar I disorder is diagnosed when there has been at least one episode of mania (irrespective of whether a depressed pole has ever been observed). It is assumed that depression has been present but to a mild degree and has passed unnoticed, or that there will be one.

Bipolar II disorder is diagnosed when there is a history of at least one episode of hypomania (not mania). Again, it is assumed that there has been or will be an episode of depression.

Rapid cycling bipolar disorder by definition is applied when there are four or more episodes of significant mood elevation or depression in the preceding 12 months. The term is sometimes used loosely. On rare occasions, the mood may "rapidly switch" from high to low (or vice versa) in a matter of hours. More than one switch in one day is unknown in the writer's experience. Rapid cycling is rare.

Mixed mood state refers to the coexistence of symptoms of low and elevated mood. Low and elevated mood states do not cancel each other out. Examples include the patient who is talking about his/her suicide plan in a rapid, euphoric manner, and the patient who is weeping and laughing at the same time about how successful he/she has been in life. Frequently the clinical picture changes with low and elevated

symptoms being more prominent at different times. This should not be incorrectly diagnosed as rapid cycling. Mixed mood states are relatively common.

Clinical features of bipolar disorder

The clinical features of depressive phases have been described in Chapter 8. The clinical features of manic and hypomanic can be extrapolated from the diagnostic criteria listed above.

Patients with mania usually do not bring themselves to the health professional or hospital complaining of symptoms. Commonly, they lack insight, and have "never felt better in my life". In these circumstances patients will naturally not wish to come into hospital, or for any treatment which will make them feel less "well". Quite frequently patients with mania are brought to professional attention by the Police or family members. Patients may need to be retained in hospital against their will, using the local mental health legislation.

Police or family may complain that the patient is a danger to themselves or others.

Patients classically present in a disorganized state. They may be unclean and shabby in appearance; having been highly distractible and jumping from one exciting idea to the next, they may not have had time or the necessary focus to attend to their grooming. Alternatively, the patient may present in the latest fashions, often in the brightest colours, and wearing excessive jewellery.

Patients are often talking rapidly and loudly and are difficult to interrupt (pressure of speech/thought). With racing thoughts, patients rapidly change topic, making it difficult follow the points they are making (or not making; flight of ideas). A feature of flight of ideas may be may be clanging (rhyming of words) and punning, although this is not common.

Patients have often not slept of some days or might be having 3 or less hours of sleep per night. They will not see this as a problem and state that they don't need any more sleep, and besides, they have too many things to achieve to waste time sleeping. They are often not eating regularly or wisely. They may be visiting politicians with plans to improve the state of the world or have entered into unwise investments.

While people with mania may be irritable (especially when thwarted) they do not usually represent a danger to others, except for an occasional pub brawls or tussles with family members. They represent a danger to themselves, not so much through attempts on their life, but through unwise sexual encounters and investments. Thus, they are frequently in danger of doing themselves social and financial damage. It depends on the interpretation of the local mental health legislation as to whether this type of danger justifies involuntary hospitalization. (Most modern legislation allows for hospitalization under these circumstances.)

Mania, especially when marked, is best managed in hospital. Patients may not accept medication and this may need to be initiated involuntarily. The first step, particularly when lack of sleep and food and fluid intake are causing concern, is to reduce the

overactivity. This is achieved using a sedating antipsychotic medicine, sometimes with the addition of a benzodiazepine. The mood stabilizing medications (lithium carbonate, sodium valproate, carbamazepine) can also be commenced (or re-commenced) at this stage. The best possible outcome is that the patient is discharged from hospital on mood stabilizing (prophylactic) medication, complies with medical recommendations and remains well.

Neuropsychology

A review of the neuropsychology of bipolar disorder (Yurgelun-Todd & Sneider, 2006) concludes:

- At least a subset of bipolar patients have diminished neurocognitive function
- Cognitive alterations may be bipolar disorder markers: neurocognitive deficits are common in first-degree relatives of bipolar patients
- Cognitive deficits are most pronounced during manic episodes
- There is a relationship between cognitive function and the number of past affective episodes and hospitalizations

The impairments in bipolar disorder are similar in some, but distinct in other ways, from those observed in schizophrenia. (Czobor et al, 2007).

Neuroimaging in bipolar disorder

The whole brain volume in bipolar disorder appears to be preserved (Hoge et al, 1999). However, moderate ventricular enlargement is frequently demonstrated (Elkis et al, 1995), suggesting some tissue loss.

Grey matter changes are reported (Elkis et al, 1995), however, these are generally small (Kempton et al, 2008), suggesting that these changes in bipolar disorder are less pronounced than those found in schizophrenia (Nugent et al, 2006).

Grey matter changes have been reported in the left medial frontal gyrus (Janssen et al (2008), dorsolateral and orbital prefrontal cortices (Rajkowska et al, 2001).

The subgenual (under the knee, or anterior bend of the corpus callosum) anterior cingulate cortex is an area of particular interest. Reduced grey matter volume and decreased cerebral blood flow and metabolism in the left subgenual anterior cingulate had been demonstrated in people with bipolar disorder with a positive family history (Drevets et al, 1997). Similar changes have been reported in patients with first-episode mood related psychosis (Hirayasu et al, 1999), indicating that early changes occur. This is consistent with post-mortem studies which describe reduced glial (Ongur et al, 1998) and neuronal (Bouras et al, 2001) density in the subgenual cingulate cortex of people with bipolar disorder.

Koo et al (2008) conducted a longitudinal study of bipolar disorder, scanning patients at the first episode psychosis, and again, 2-3 years later. They found progressive reduction in the volume of the anterior cingulate cortex. Moorhead et al (2007) studying chronic bipolar patients found progressive grey matter reduction in the

hippocampal, fusiform, and cerebellar, but not anterior cingulate cortex, over a 4 year follow-up period.

Savits et al (2010) found that compared to healthy controls, un-medicated individuals with bipolar disorder had significantly smaller amygdalae, while medicated individuals with bipolar had larger (trending to significance) amygdalae. The difference between these two disordered samples was attributed to the effects of psychotropic medication.

The white matter hyperintensities are extensive and were thought to be more pronounced in bipolar disorder than schizophrenia (Altschuler et al, 1995). However, a careful study (Zanetti et al, 2008) suggests these disorders have similar white matter deficits. Heng et al (2010) reviewed 18 diffusion tensor imaging (DTI) studies of the white matter of people with bipolar disorder, and described loss of white matter connectivity, involving prefrontal and frontal regions, projection, associative and commissural fibres.

Pathophysiology of bipolar disorder

Bipolar disorder may result from dysfunction of neural networks (rather than dysfunction at a particular site). Various circuits have been proposed. A prominent contender is the anterior limbic network (ALN), which includes the prefrontal regions, subcortical structures (such as the thalamus, striatum and amygdala) and the midline cerebellum (Strakowski et al, 2005).

Some pathological changes may be developmental while others may be acquired (possibly through failure of inhibitory feedback between structures).

Traditionally, interest has focused on monoamine neurotransmitter pathways (serotonin, acetylcholine, nor/adrenalin, dopamine). Recently, glutamatergic function has also been suggested as underpinning bipolar disorder (Kugaya and Sanacora, 2005).

Attention has also moved to intracellular signalling cascades/pathways and neuroplasticity (Manji et al, 2003).

Intracellular signalling pathways are complex and integrated. They allow the cell to receive, process, and respond to information. They are involved in regulating diverse vegetative functions such as mood, appetite and wakefulness, and are therefore likely to be involved in the pathophysiology of bipolar disorder. The G protein-cAMP pathway, protein kinase C (PKC) pathway, and calcium signalling are presently topics of interest.

Neuroplasticity refers to diverse processes by which the brain adapts to a variety of internal and external stimuli, and includes axonal sprouting, synaptogenesis and even neurogenesis. The reduced size of certain brain components in bipolar disorder suggests a failure of neuroplasticity. Abnormalities of glial cell function have been proposed, as these cells play a central role in the release of excitatory glutamate. Elevated glucocorticoid levels (possibly due to stress) have also been identified as

potentially important, as these are associated with cell atrophy and vulnerability. Low levels of neuro-protective and neurotrophic factors may be important. Brain derived neurotrophic factor (BDNF) and glycogen synthase kinase–3 (GSK-3) have received particular attention.

Genetics of bipolar disorder

There is a substantial genetic contribution to bipolar disorder. Studies which report a 1% incidence in the general population, report a 7% incidence in the first-degree relatives of people with bipolar disorder. A monozygotic twin of a bipolar patient has about a 60% risk of developing the disorder (Potash & DePaulo, 2002).

A specific gene for bipolar disorder has not been found and is now unlikely. Evidence indicates that multiple genes are involved, interacting with each other and the environment.

BDNF gene
Brain derived neurotropic factor (BDNF) is involved in neural growth, differentiation, synaptic connectivity, and neuronal repair. It is proposed that decreased BDNF expression is an aetiological factor in depression. Several studies have suggested a DNA variant in the vicinity of the BDNF locus confers susceptibility to bipolar disorder (Muller et al, 2006).

Endophenotypes. The process of identifying patient subgroups using biological criteria in the attempt to reduce genetic heterogeneity, and thereby increase the chance of finding genetic risk factors, has been mentioned in the Chapter 7. Endophenotypes being studied in bipolar disorder include, 1) mood disorder with psychotic symptoms, 2) bipolar II disorder, 3) mood disorder with comorbid anxiety symptoms, and 4) mood disorder responsive to lithium therapy.

Cyclothymic disorder

The DSM-IV diagnostic criteria are that over a period of 2 years there have been numerous episodes of hypomanic symptoms and numerous episodes of depressive symptoms. Further, during this time it has not been possible to make a diagnosis of major depressive episode, manic episode or mixed mood state.

Thus, cyclothymic disorder is a cyclic mood disorder with symptoms less pronounced than those of bipolar disorder. It was first described in the 19th century (Baethge et al, 2003).

Some authorities view cyclothymia as a personality trait or disorder (cycloid or cyclothymic personality disorder) rather than an episodic disorder. Cycloid or cyclothymic personality disorder does not appear in either the DSM-IV or the ICD-10, but this does not deny the existence of such a condition. Cyclothymic temperament can be quantified using the Temperament Evaluation of Memphis, Pisa, Paris and San Diego (TEMPS) and the Temperament and Character Inventory (TCI). There is evidence that cyclothymic disorder (or cyclothymic personality disorder) is a

part of a “spectrum of bipolar disorder” and may predispose to the development of bipolar disorder (Chiaroni et al, 2005).

Some success has been reported the treatment of cyclothymic temperament with mood stabilizers (Manning et al, 2005).

Young mania rating scale (YMRS)

The YMRS (Young et al, 1978) is the most widely used instrument for quantifying mania. An adapted version is presented here. A printable version is freely available at www.cnsforum.com.

Guide for Scoring Items:
The purpose of each item is to rate the severity of that abnormality in the patient. When several keys are given for a particular grade or severity, the presence of only one is required to qualify for that rating.

The keys provided are guides. One can ignore the keys if that is necessary to indicate severity, although this should be the exception rather than the rule.

Scoring between the points given (whole or half points) is possible and encouraged after experience with the scale is acquired. This is particularly useful when severity of a particular item in a patient does not follow the progression indicated by the keys.

1. Elated Mood
    0. Absent
    1. Mildly or possibly increased on questioning
    2. Definite subjective elevation; optimistic, self-confident; cheerful; appropriate content
    3. Elevated, inappropriate to content; humorous
    4. Euphoric; inappropriate laughter; singing

2. Increased Motor Activity-Energy
    0. Absent
    1. Subjectively increased
    2. Animated; gestures increased
    3. Excessive energy; hyperactive at times; restless (can be calmed)
    4. Motor excitement; continuous hyperactivity (cannot be calmed)

3. Sexual Interest
    0. Normal; not increased
    1. Mildly or possibly increased
    2. Definite subjective increase on questioning
    3. Spontaneous sexual content; elaborates on sexual matters; hypersexual by self-report
    4. Overt sexual acts (towards patients, staff, or interviewer)

4. Sleep
- 0. Reports no decrease in sleep
- 1. Sleeping less than normal amount by up to one hour
- 2. Sleeping less than normal by more than one hour
- 3. Reports decreased need for sleep
- 4. Denies need for sleep

5. Irritability
- 0. Absent
- 2. Subjectively increased
- 4. Irritable at time during interview; recent episodes of anger or annoyance on ward
- 6. Frequently irritable during interview; short, curt throughout
- 8. Hostile, uncooperative; interview impossible

6. Speech (Rate and Amount)
- 0. No increase
- 2. Feels talkative
- 4. Increased rate or amount at time, verbose at times
- 6. Push; consistently increased rate and amount; difficult to interrupt
- 8. Pressured; uninterruptible, continuous speech

7. Language-Thought Disorder
- 0. Normal
- 1. Circumstantial; mild distractibility; quick thoughts
- 2. Distractible, loses goal of thought; changes topics frequently; racing thoughts
- 3. Flight of ideas; tangentiality; difficult to follow; rhyming, echolalia
- 4. Incoherent; communication impossible

8. Content
- 0. Normal
- 2. Questionable plans
- 4. Special project(s); hyper-religious
- 6. Grandiose or paranoid ideas; ideas of reference
- 8. Delusions; hallucinations

9. Disruptive-Aggressive Behaviour
- 0. Absent, cooperative
- 2. Sarcastic; loud at times, guarded
- 4. Demanding; threats on ward
- 6. Threatens interviewer; shouting; interview difficult
- 8. Assaultive; destructive; interview impossible

10. Appearance
- 0. Appropriate dress and grooming
- 1. Minimally unkempt
- 2. Poorly groomed; moderately dishevelled; overdressed
- 3. Dishevelled; partly clothed; garish make-up
- 4. Completely unkempt; decorated; bizarre garb

11. Insight

0. Present; admits illness; agrees to need for treatment
1. Possibly ill
2. Admits behaviour change, but denies illness
3. Admits possible change in behaviour, but denies illness
4. Denies any behaviour change

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