
UNIT 1 SCHIZOPHRENIA: ETIOLOGY, NEUROCOGNITIVE FUNCTIONING AND INTERPERSONAL ASPECTS

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1.0 INTRODUCTION

This unit deals with schizophrenia and focuses on neuropsychological aspects. The unit begins with the concept and description of schizophrenia and provides the incidence and prevalence rate of schizophrenia in India and abroad. It explains the characteristics of schizophrenia and indicates the onset of the disorder to be in the teens and adolescent years to young adulthood. The comorbidity of certain other disorders along with schizophrenia are discussed. Then we present a few important tests to clearly diagnose the schizophrenic disorder. The next section deals with the etiology of schizophrenia in which we discuss the role of genetics, prenatal factors, fetal growth abnormalities, lack of oxygen and some of the important childhood antecedents. The causes then present the role of substance use in schizophrenia and in this we discuss the role of cannabis, amphetamines, hallucinogens, tobacco etc. Social factors, urbanicity, relationships within family and personality types are also considered as causes in the onset of schizophrenia. Then we discuss the neurocognitive functioning of schizophrenia followed by treatment of schizophrenic disorder. The treatment includes hospitalisation, medicines, cognitive behaviour therapy and family therapy.

1.1 OBJECTIVES

On completing this unit, you will be able to :

- Define schizophrenia and describe the characteristic features;
- Explain the etiology of schizophrenia;
- Describe how substance use cause schizophrenic symptoms;
- Explain the neurocognitive functioning aspects of schizophrenia;
- Elucidate the treatment of schizophrenia; and
- Analyse the importance of various psychological therapies.

1.2 CONCEPT AND DESCRIPTION OF SCHIZOPHRENIA

Schizophrenia is a severe, psychotic disorder. People who have it may hear voices, see things that are not there or believe that others are reading or controlling their minds. In men, symptoms usually start in the late teens and early 20s. They include hallucinations, such as visual hallucinations (seeing things which are not there), and auditory hallucinations (hearing things which are not present), and delusions such as false beliefs that others are plotting or conspiring against them while actually there is no such thing.

1.2.1 Incidence of Schizophrenia

The incidence of schizophrenia is estimated to be one percent to one and a half percent of the U.S. population being diagnosed with it over the course of their lives. In India, according to NIMH, it is estimated that 4.3 to 8.7 million people (a rough estimate based on the population) suffer from schizophrenia. According to Barua et al (2006), the prevalence rate of schizophrenia in India is 1%.

1.2.2 Characteristics of Schizophrenia

While there is no known cure for schizophrenia, it is a treatable disorder. Most of those afflicted by schizophrenia respond to drug therapy, and many are able to lead productive

and fulfilling lives. It is characterised by a constellation of distinctive and predictable symptoms. The symptoms that are most commonly associated with the disease are called positive symptoms, that denote the presence of grossly abnormal behaviour. These include thought disorder, delusions, and hallucinations.

Thought disorder is the diminished ability to think clearly and logically. Often it is manifested by disconnected and nonsensical language that renders the person with schizophrenia incapable of participating in conversation, contributing to the person's alienation from his family, friends, and society.

Delusions are common among individuals with schizophrenia. An affected person may believe that he is being conspired against (called "paranoid delusion"). Broadcasting, describes a type of delusion in which the individual with this illness believes that his thoughts can be heard by others.

Hallucinations are perceptual disorder, in which one could suffer from auditory hallucination, visual hallucination and tactile hallucination. Sometime the voices that the schizophrenic hears may describe the person's actions, warn him of danger or tell him what to do. At times the individual may hear several voices carrying on a conversation.

Less obvious than the "positive symptoms" but equally serious are the deficit or negative symptoms that represent the absence of normal behaviour. These include flat or blunted affect (i.e. lack of emotional expression), apathy, and social withdrawal).

Schizophrenia is a mental disorder characterised by a disintegration of thought processes and of emotional responsiveness. It most commonly manifests as auditory hallucinations, paranoid or bizarre delusions, or disorganised speech and thinking, and it is accompanied by significant social or occupational dysfunction.

1.2.3 Onset of Schizophrenia

It can affect anyone at any point in life, it is somewhat more common in those persons who are genetically predisposed to the disorder. The first psychotic episode generally occurs in late adolescence or early adulthood. The probability of developing schizophrenia as the offspring of two parents, neither of whom has the disease, is 1 percent. The probability of developing schizophrenia as the offspring of one parent with the disease is approximately 13 percent. The probability of developing schizophrenia as the offspring of both parents with the disease is approximately 35%. Persons with schizophrenia develop the disease between 16 and 25 years of age.

This disorder has its onset around adolescent years to 20s to early 30s. This disorder makes the person behave in the weirdest manner that persons with this disorder are also stigmatized. As generally thought to be, schizophrenia is not a split personality, it is a rare and very different disorder. Like cancer and diabetes, schizophrenia has a biological basis. It is not caused by bad parenting or personal weaknesses.

Onset is uncommon after age 30, and rare after age 40. In the 16-25 year old age group, schizophrenia affects more men than women. In the 25-30 year old group, the incidence is higher in women than in men.

The onset of symptoms typically occurs in young adulthood, with a global lifetime prevalence of about 0.3–0.7%. Diagnosis is based on observed behaviour and the patient's reported experiences.

1.2.4 Neurocognitive Explanations of Schizophrenia

Increasingly, neuro cognitive paradigms are used to study patients with schizophrenia.

With such paradigms, the cognitive abnormalities in schizophrenia are characterised by means of experimental and clinical tests. These techniques have indicated that some types of cognitive impairment are not only reliably present in schizophrenia, but are also central and enduring features of the disorder. This focuses on certain recent advances in

- i) characterising the precise nature of cognitive impairments in schizophrenia,
- ii) understanding the implications of these for treatment, given the course and relationship to outcome of these variables, and
- iii) on novel applications of neuro cognitive approaches to the genetics of schizophrenia.

1.2.5 Comorbidity

Genetics, early environment, neurobiology, and psychological and social processes appear to be important contributory factors; some recreational and prescription drugs appear to cause or worsen symptoms. Current research is focused on the role of neurobiology, although no single isolated organic cause has been found.

The many possible combinations of symptoms have triggered debate about whether the diagnosis represents a single disorder or a number of discrete syndromes. Despite the etymology of the term from the Greek roots *skhizein* (to split) and *phrēn, phren-* (mind), schizophrenia does not imply a “split mind” and it is not the same as dissociative identity disorder, also known as “multiple personality disorder” or “split personality” a condition with which it is often confused in public perception.

The disorder is thought mainly to affect cognition, but it also usually contributes to chronic problems with behaviour and emotion. People with schizophrenia are likely to have additional (comorbid) conditions, including major depression and anxiety disorders. The lifetime occurrence of substance abuse is almost 50%. Social problems, such as long-term unemployment, poverty and homelessness, are common. The average life expectancy of people with the disorder is 12 to 15 years less than those without, the result of increased physical health problems and a higher suicide rate (about 5%).

It is possible that nearly every cognitive function of a schizophrenic patient is impaired, and to an equivalent degree three functions play a role that is early descriptions of the clinical phenomenology of schizophrenia emphasized impairment of volitional attention. This clinical observation has been amply supported by many years of experimental study with the use of a wide variety of tasks.

1.2.6 Tests for Schizophrenia

Recent models have sharpened the lines between selective attention, shifting attention, and biasing for and encoding relevant target information. We investigate some of these functions by examining three tasks, viz.,

- i) the Continuous Performance Test (CPT),
- ii) the Covert Visual Orienting test, and the
- iii) Stroop Test.

The classic test of selective attention is the Stroop color word task, in which a word (e.g., red) can be printed in incongruent colors (e.g., green). Depending on instructions, the task is either to name the actual word or name the ink color in which the word is written.

The attentional task requires the subject to focus selectively on one dimension of the stimulus and ignore or inhibit contextually inappropriate response tendencies. Normal

subjects are slowed when they have to name a color of ink that is incongruent with the word because they have to inhibit their over learned tendency of reading the word.

Schizophrenic patients may have differential problems on this task in reaction time or accuracy, a finding that has been taken to suggest that they have disproportionate difficulty in inhibiting over learned tendencies (of reading the word), and may be susceptible to failure in conditions of cognitive conflict more generally, because they are unable to use the contextual information appropriately.

Secondly Memory impairment is often the most striking feature of neuro cognitive impairment in schizophrenia. Newer work has sought to determine if patients with schizophrenia have qualitative abnormalities in specific stages of mnemonic processing. Toward this end, Elvevaag and colleagues conducted an encoding study in which subjects had to state whether the letter *a* was present in a word (shallow level) or make a decision as to whether the word represented a living thing or not (deep level).

Much previous work has demonstrated that words are recalled better when they are encoded deeply. Preliminary results indicated that although patients' performance was worse than that of controls, they showed the same benefit of deep encoding. In other words, although impairment in any given cognitive process may exact only a small cost in social and vocational functioning, a constellation of impairments may be disabling and result in the emergence of psychosis. Thus, understanding the genetic architecture of individual processes may well be critical.

Self Assessment Questions

1) Define schizophrenia and bring out its important features.

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2) What is the prevalence and incidence rate of schizophrenia?

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3) Describe the onset of schizophrenia.

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4) Give the neurocognitive explanations of schizophrenia.

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5) What is meant by comorbidity? What are the disorders associated with schizophrenia?

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6) Describe the tests for schizophrenia.

1.3 ETIOLOGY OF SCHIZOPHRENIA

The causes of schizophrenia have been the subject of much debate, with various factors proposed and discounted or modified. The language of schizophrenia research under the medical model is scientific. Such studies suggest that genetics, prenatal development, early environment, neurobiology and psychological and social processes are important contributory factors.

Current psychiatric research into the development of the disorder is often based on a neurodevelopmental model (proponents of which see schizophrenia as a syndrome. However, schizophrenia is diagnosed on the basis of symptom profiles. Neural correlates do not provide sufficiently useful criteria “Current research into schizophrenia has remained highly fragmented, much like the clinical presentation of the disease itself”

1.3.1 Genetics

Genetic vulnerability and environmental factors can act in combination to result in diagnosis of schizophrenia. Research suggests that genetic vulnerability to schizophrenia is multifactorial, caused by interactions of several genes.

Both individual twin studies and meta analyses of twin studies estimate the heritability of risk for schizophrenia to be approximately 80%. Concordance rates between monozygotic twins was close to 50%, whereas dizygotic twins was 17%. Adoption studies have also indicated a somewhat increased risk in those with a parent with schizophrenia even when raised apart. Studies suggest that the phenotype is genetically influenced but not genetically determined. Also the variants in genes are generally within the range of normal human variation and have low risk associated with them each individually. Some interact with each other and with environmental risk factors and that they may not be specific to schizophrenia.

1.3.2 Prenatal

It is well established that obstetric complications or events are associated with an increased chance of the child later developing schizophrenia, although overall they constitute a non specific risk factor with a relatively small effect.

Obstetric complications occur in approximately 25 to 30% of the general population and the vast majority do not develop schizophrenia, and likewise the majority of individuals with schizophrenia have not had a detectable obstetric event.

Nevertheless, the increased average risk is well replicated, and such events may moderate the effects of genetic or other environmental risk factors. The specific complications or events most linked to schizophrenia, and the mechanisms of their effects, are still under examination.

One epidemiological finding is that people diagnosed with schizophrenia are more likely to have been born in winter or spring. However, the effect is not large. Explanations have included a greater prevalence of viral infections at that time, or a greater likelihood of vitamin D deficiency. A similar effect (increased likelihood of being born in winter and spring) has also been found with other, healthy populations, such as chess players.

1.3.3 Fetal Growth

Lower than average birth weight has been one of the most consistent findings, indicating slowed fetal growth possibly mediated by genetic effects. Almost any factor adversely affecting the fetus will affect growth rate, however, so the association has been described as not particularly informative regarding causation. In addition, the majority of birth cohort studies have failed to find a link between schizophrenia and low birth weight or other signs of growth retardation.

1.3.4 Hypoxia

It has been hypothesized since the 1970s that brain hypoxia (low oxygen levels) before, at or immediately after birth may be a risk factor for the development of schizophrenia.

Hypoxia is now being demonstrated as relevant to schizophrenia in animal models, molecular biology and epidemiology studies. One study in Molecular Psychiatry was able to differentiate 90% of schizophrenics from controls based on hypoxia and metabolism.

Hypoxia has been recently described as one of the most important of the external factors that influence susceptibility, although studies have been mainly epidemiological. Such studies place a high degree of importance on hypoxic influence. Fetal hypoxia, in the presence of certain unidentified genes, has been correlated with reduced volume of the hippocampus, which is in turn correlated with schizophrenia.

Although most studies have interpreted hypoxia as causing some form of neuronal dysfunction or even subtle damage, it has been suggested that the physiological hypoxia that prevails in normal embryonic and fetal development, or pathological hypoxia or ischemia, may exert an effect by regulating or deregulating genes involved in neurodevelopment.

1.3.5 Other Factors

There is an emerging literature on a wide range of prenatal risk factors, such as prenatal stress, intrauterine (in the womb) malnutrition, and prenatal infection. Increased paternal age has been linked to schizophrenia, possibly due to “chromosomal aberrations and mutations of the aging germline.”

Maternal-fetal rhesus or genotype incompatibility has also been linked, via increasing the risk of an adverse prenatal environment. Also, in mothers with schizophrenia, an increased risk has been identified via a complex interaction between maternal genotype,

maternal behaviour, prenatal environment and possibly medication and socio-economic factors.

There may be an association between celiac disease (gluten intolerance) and schizophrenia in a small proportion of patients, though large randomized controlled trials and epidemiological studies will be needed before such an association can be confirmed.

Withdrawal of gluten from the diet is an inexpensive measure which may improve the symptoms in a small ($\leq 3\%$) number of schizophrenic patients.

1.3.6 Infections

Numerous viral infections, in utero or in childhood, have been associated with an increased risk of later developing schizophrenia.

Influenza has long been studied as a possible factor. A 1988 study found that individuals who were exposed to the Asian flu as second trimester fetuses were at increased risk of eventually developing schizophrenia. This result was corroborated by a later British study of the same pandemic, but not by a 1994 study of the pandemic in Croatia. A Japanese study also found no support for a link between schizophrenia and birth after an influenza epidemic.

Polio, measles, varicella-zoster, rubella, herpes simplex virus type 2, maternal genital infections, Borna disease virus, and more recently *Toxoplasma gondii*, have been correlated with the later development of schizophrenia. Psychiatrists E. Fuller Torrey and R.H. Yolken have hypothesized that the latter, a common parasite in humans, contributes to some, if not many, cases of schizophrenia.

1.3.7 Childhood Antecedents

In general, the antecedents of schizophrenia are subtle and those who will go on to develop schizophrenia do not form a readily identifiable subgroup, which would lead to identification of a specific cause. Average group differences from the norm may be in the direction of superior as well as inferior performance.

Overall, birth cohort studies have indicated subtle nonspecific behavioural features, some evidence for psychotic like experiences (particularly hallucinations), and various cognitive antecedents. There have been some inconsistencies in the particular domains of functioning identified and whether they continue through childhood and whether they are specific to schizophrenia.

A prospective study found average differences across a range of developmental domains, including reaching milestones of motor development at a later age, having more speech problems, lower educational test results, solitary play preferences at ages four and six, and being more socially anxious at age 13.

1.4 SUBSTANCE USE

The relationship between schizophrenia and drug use is complex, meaning that a clear causal connection between drug use and schizophrenia has not been found. There is strong evidence that using certain drugs can trigger either the onset or relapse of schizophrenia in some people. It may also be the case, however, that people with schizophrenia use drugs to overcome negative feelings associated with both the commonly prescribed antipsychotic medication and the condition itself, where negative emotion, paranoia and anhedonia are all considered to be core features.

The rate of substance use is known to be particularly high in this group. In a recent study, 60% of people with schizophrenia were found to use substances and 37% would be diagnosable with a substance use disorder.

1.4.1 Cannabis

There is some evidence that cannabis use can contribute to schizophrenia. Some studies suggest that cannabis is neither a sufficient nor necessary factor in developing schizophrenia, but that cannabis may significantly increase the risk of developing schizophrenia and may be, among other things, a significant causal factor. Nevertheless, some previous research in this area has been criticised as it has often not been clear whether cannabis use is a cause or effect of schizophrenia. To address this issue, a recent review of studies from which a causal contribution to schizophrenia can be assessed has suggested that cannabis statistically doubles the risk of developing schizophrenia on the individual level, and may, assuming a causal relationship, be responsible for up to 8% of cases in the population.

1.4.2 Amphetamines and other Stimulants

As amphetamines trigger the release of dopamine and excessive dopamine function is believed to be responsible for many symptoms of schizophrenia (known as the dopamine hypothesis of schizophrenia), amphetamines may worsen schizophrenia symptoms. In addition, amphetamines are known to cause a stimulant psychosis in otherwise healthy individuals that superficially resembles schizophrenia, and may be misdiagnosed as such by some healthcare professionals.

1.4.3 Hallucinogens

Drugs such as ketamine, PCP, and LSD have been used to mimic schizophrenia for research purposes. Using LSD and other psychedelics as a model has now fallen out of favour with the scientific research community, as the differences between the drug induced states and the typical presentation of schizophrenia have become clear. The dissociatives ketamine and PCP, however, are still considered to produce states that are remarkably similar however, and are considered to be even better models than stimulants since they produce both positive and negative symptoms.

1.4.4 Tobacco Use

People with schizophrenia tend to smoke significantly more tobacco than the general population. The rates are exceptionally high amongst institutionalised patients and homeless people. In a UK census from 1993, 74% of people with schizophrenia living in institutions were found to be smokers. A 1999 study that covered all people with schizophrenia in Nithsdale, Scotland found a 58% prevalence rate of cigarette smoking, to compare with 28% in the general population.

Despite the higher prevalence of tobacco smoking, people diagnosed with schizophrenia have a much lower than average chance of developing and dying from lung cancer. While the reason for this is unknown, it may be because of a genetic resistance to the cancer, a side effect of drugs being taken, or a statistical effect of increased likelihood of dying from causes other than lung cancer.

A 2003 study of over 50,000 Swedish conscripts found that there was a small but significant protective effect of smoking cigarettes on the risk of developing schizophrenia later in life. While the authors of the study stressed that the risks of smoking far outweigh these minor benefits, this study provides further evidence for the 'self-medication' theory.

of smoking in schizophrenia and may give clues as to how schizophrenia might develop at the molecular level.

1.4.5 Social Adversity

The chance of developing schizophrenia has been found to increase with the number of adverse social factors (e.g. indicators of socio-economic disadvantage or social exclusion) present in childhood. Stressful life events generally precede the onset of schizophrenia. A personal or recent family history of migration is a considerable risk factor for schizophrenia, which has been linked to psychosocial adversity, social defeat from being an outsider, racial discrimination, family dysfunction, unemployment and poor housing conditions.

Childhood experiences of abuse or trauma are risk factors for a diagnosis of schizophrenia later in life. Recent large-scale general population studies indicate the relationship is a causal one, with an increasing risk with additional experiences of maltreatment although a critical review suggests conceptual and methodological issues require further research. There is some evidence that adversities may lead to cognitive biases and/or altered dopamine neurotransmission, a process that has been termed “sensitisation”.

Specific social experiences have been linked to specific psychological mechanisms and psychotic experiences in schizophrenia. In addition, structural neuroimaging studies of victims of sexual abuse and other traumas have sometimes reported findings similar to those sometimes found in psychotic patients, such as thinning of the corpus callosum, loss of volume in the anterior cingulate cortex, and reduced hippocampal volume.

1.4.6 Urban City

A particularly stable and replicable finding has been the association between living in an urban environment and the development of schizophrenia, even after factors such as drug use, ethnic group and size of social group have been controlled for.^[115] A recent study of 4.4 million men and women in Sweden found a 68%–77% increased risk of diagnosed psychosis for people living in the most urbanized environments, a significant proportion of which is likely to be described as schizophrenia.

1.4.7 Close Relationships

Evidence is consistent that negative attitudes from others increase the risk of schizophrenia relapse, in particular critical comments, hostility, authoritarian, and intrusive or controlling attitudes (termed ‘high expressed emotion’ by researchers).

1.4.8 Environment

Pollack and Malzberg studied 175 patients of this disease and reached to the conclusion that environment plays a bigger part in creating this disease than does heredity, and so psychologist today refutes the importance of environment in causing of schizophrenia.

1.4.9 Instinct for Self-respect

According to McDougall, when the patient is unable to find proper and desirable expression for his instincts of self-respect, he becomes a prey to schizophrenia.

1.4.10 Personality Type

It is the opinion of some psychologists that only a certain personality type is susceptible to schizophrenic tendencies, primarily the introverted type of individual. But this concept

of the personality type being more prone to schizophrenia has also not found much of the following among the thinkers.

1.5 NEUROCOGNITIVE FUNCTIONING ASPECTS IN SCHIZOPHRENIA

In neuropsychology, that is, inferring regional brain dysfunction based on poor performance on putatively localising neuropsychological tests. On the basis of such an approach, various authors have concluded that schizophrenia is characterised by cognitive test profiles indicative of dysfunction of the frontal lobe, temporal lobe, left or right hemisphere, basal ganglia, etc. This lack of consensus may reflect the heterogeneity of schizophrenia, and may also be a result of the relatively poor localising ability of many standard neuropsychological instruments. A variety of brain regions and associated cognitive functions have thus been implicated in the psychopathology that characterises schizophrenia.

In general, the strongest camps to emerge have been those that claim a disproportionate impairment of memory functioning and relatively selective executive dysfunction. Others have reported more widespread neuropsychological dysfunction. An extreme case is put by Meehl who stated that impaired cognitive test performance in patients with schizophrenia may be an epiphenomenon, for example, reflecting lack of motivation or distraction by hallucinations. In order to convince skeptics that the neuropsychological impairment is important, one would have to demonstrate a clear relationship between cognitive test performance and 'real-life' functional outcome.

An important review of this area was published by Green (1996), who evaluated studies that used cognitive measures as predictors and correlates of functional outcome. The most consistent finding to emerge was that verbal memory functioning was associated with all types of functional outcome. It was observed that verbal memory showed the greatest impairment in the meta-analysis whereas sustained attention or vigilance was found to be related to social problem solving and skill acquisition.

Interestingly, psychotic symptoms were not significantly associated with outcome measures in any of the studies that were reviewed. Green (1996) concluded that deficiencies in verbal memory and vigilance may prevent patients from attaining optimal adaptation and hence may act as rate limiting factors in terms of rehabilitation. It is interesting to observe that where the patients showed symptomatic improvement with clozapine treatment, there was no associated improvement in neuropsychological functioning.

Velligan et al (1997) confirmed a poor correlation between symptomatology and ability to perform daily living tasks. However, cognitive impairment predicted over 40% of the variance in scores on a functional needs assessment rating scale.

Addington & Addington (1999) used a novel video taped measure of interpersonal problem solving skills. In a study of 80 out patients with schizophrenia, they found that better cognitive flexibility and verbal memory were positively associated with interpersonal problem solving ability.

In summary all these studies taken together, strongly support the view that cognitive impairment in schizophrenia is directly related to social deficits and functional outcome for many patients.

Schizophrenia symptoms may more clearly relate to disordered patterns of information processing. Liddle & Morris (1991) conducted a seminal study in this area where they

assessed a group of patients with chronic schizophrenia using a battery of neuropsychological tests allegedly sensitive to frontal lobe dysfunction.

Signs and symptoms were clustered into three syndromes:

- psychomotor poverty,
- disorganisation and
- reality distortion.

Scores for the disorganisation syndrome were associated with impairment on tests that required the subject to inhibit a well established but inappropriate response. Ratings for the psychomotor poverty syndrome were found to be associated with slowness of mental activity.

More recently, Baxter & Liddle (1998) confirmed that the psychomotor poverty syndrome was associated with psychomotor slowing, and disorganisation was associated with impaired performance on the Stroop Attentional Conflict task, but not with other tests of cognitive inhibition.

This led the authors to conclude that the disorganisation syndrome might be associated with a specific difficulty in suppressing irrelevant verbal responses. This approach is appealing, because it tries to integrate neuropsychology with the clinical features of schizophrenia. Pursuing this approach to a more specific level would result in an attempt to explain specific signs or symptoms in terms of aberrant information processing.

As an illustration of this approach, McKenna (1991) proposed that delusions may arise as a consequence of a dysfunctional semantic memory system. Again, this hypothesis has intuitive appeal, as delusions by definition must represent false belief, knowledge. However, efforts to try to provide convincing evidence of a causal relationship between a specific neuropsychological abnormality and a particular sign or symptom have, as yet, been disappointing.

The resulting cognitive data were subjected to cluster analysis and five cognitive clusters emerged:

- selective executive dysfunction;
- normative function;
- executive and motor deficits;
- dementia/multi-focal disturbance; and
- relatively selective motor deficits.

Heinrichs & Awad (1993) proposed that cluster analysis of cognitive test data may thus have promise in reducing and clarifying the heterogeneity of schizophrenia, and concluded that several patterns of neurocognitive dysfunction may underlie schizophrenia, thus contributing to the heterogeneity of the illness and its variable functional outcome.

Frith (1992) has also proposed a fascinating theoretical model, where he relates specific signs and symptoms to particular information processing abnormalities. For example, he proposes that the inability to generate spontaneous (willed) intentions can lead to poverty of action, perseveration and inappropriate action. In contrast, the inability to monitor the beliefs and intentions of others can lead to delusions of reference, paranoid delusions, certain kinds of incoherence and third-person hallucinations.

Self Assessment Questions

1) Discuss the etiology of schizophrenia.

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2) What are the childhood antecedents that cause schizophrenia?

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3) Discuss social adversity and urbanicity as causes of schizophrenia.

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4) Discuss etiology of schizophrenia in terms of substance use.

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5) Describe the neurocognitive functioning aspects of schizophrenia.

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1.6 TREATMENT OF SCHIZOPHRENIA

1.6.1 Hospitalisation

Hospitalisation may occur with severe episodes of schizophrenia. This can be voluntary or (if mental health legislation allows it) involuntary (called civil or involuntary commitment). Long term inpatient stays are now less common due to the policy of deinstitutionalisation, yet we still have large number of patients admitted to institutions for longer period of stay .

Following (or in lieu of) a hospital admission, support services available can include drop in centers, visits from members of a community mental health team or Assertive Community Treatment team, supported employment and patient led support groups.

1.6.2 Medication

The mainstay of psychiatric treatment for schizophrenia is an antipsychotic medication. These can reduce the “positive” symptoms of psychosis. Most antipsychotics take around 7–14 days to have their main effect. Risperidone (trade name Risperdal) is a common atypical antipsychotic medication.

Treatment was revolutionized in the mid 1950s with the development and introduction of the first antipsychotic chlorpromazine. Others such as haloperidol and trifluoperazine soon followed.

Though expensive, the newer atypical antipsychotic drugs are usually preferred for initial treatment over the older typical antipsychotics; they are often better tolerated and associated with lower rates of tardive dyskinesia, although they are more likely to induce weight gain and obesity-related diseases. Of the atypical antipsychotics, olanzapine and clozapine are the most likely to induce weight gain. The effect is more pronounced if high doses of olanzapine are used.^[11] Smaller amounts of weight gain are induced by risperidone and quetiapine. Ziprasidone and aripiprazole are considered to be weight neutral antipsychotics.

It remains unclear whether the newer antipsychotics reduce the chances of developing neuroleptic malignant syndrome, a rare but serious and potentially fatal neurological disorder most often caused by an adverse reaction to neuroleptic or antipsychotic drugs. In combination with drug treatment, Psychosocial and Psychotherapy are also widely recommended and used in the treatment of schizophrenia.

1.6.3 Cognitive Behavioural Therapy (CBT)

CBT is used to target specific symptoms and improve related issues such as the therapy advanced from its initial applications in the mid 1990s, more recent reviews clearly show CBT is an effective treatment for the psychotic symptoms of schizophrenia.

Another approach is cognitive remediation therapy, a technique aimed at remediating the neurocognitive deficits sometimes present in schizophrenia. Based on techniques of neuropsychological rehabilitation, early evidence has shown it to be cognitively effective, resulting in the improvement of previous deficits in psychomotor speed, verbal memory, nonverbal memory, and executive function, such improvements being related to measurable changes in brain activation as measured by fMRI.

A similar approach known as cognitive enhancement therapy, which focuses on social cognition as well as neurocognition, has shown efficacy. CBT, an evidenced based practice, is now offered in community mental health agencies and hospitals.

1.6.4 Metacognitive Training

In view of a many empirical findings suggesting deficits of metacognition (thinking about one’s thinking, reflecting upon one’s cognitive process) in patients with schizophrenia, metacognitive training (MCT) is increasingly adopted as a complementary treatment approach.

MCT aims at sharpening the awareness of patients for a variety of cognitive biases (e.g. jumping to conclusions, attributional biases, over-confidence in errors), which are implicated in the formation and maintenance of schizophrenia positive symptoms (especially delusions), and to ultimately replace these biases with functional cognitive strategies.

1.6.5 Family Therapy or Education

This addresses the whole family system of an individual with a diagnosis of schizophrenia, has been consistently found to be beneficial, at least if the duration of intervention is longer term. Aside from therapy, the impact of schizophrenia on families and the burden on careers has been recognised, with the increasing availability of self help books on the subject.

There is also some evidence for benefits from social skills training, although there have also been significant negative findings. Some studies have explored the possible benefits of music therapy and other creative therapies.

1.7 UNIT END QUESTIONS

- 1) Define the etiology for schizophrenia from genetic, hereditary and biological point of view?
- 2) What are the environmental factors that cause schizophrenia?
- 3) How neurofunctioning deficits affects the life of individual and cause schizophrenia?
- 4) Discuss some of the treatment approaches to schizophrenia.
- 5) Discuss hospitalisation and medication as treatment techniques for schizophrenia.
- 6) Describe family therapy and education as important treatment programme for schizophrenia.

1.8 LET US SUM UP

In the lay imagination, schizophrenic patients experience problems in living because they are divided against themselves, out of touch with reality, and disorganised. The view of scientists, once not altogether different, has changed.

Not only have the symptoms been defined and codified, but the neurobiological underpinnings of the disorder have begun to be described. Emerging also is a view in which cognitive impairments may be a relatively central feature of the disorder.

Cognitive impairments are involved in the genetic etiology of schizophrenia. They seem enduring in that they are present for much of the clinical history and are associated with outcome. Cognitive impairments also may have a relatively well delineated profile in which executive, memory, and attentional deficits are prominent.

As explained, schizophrenia is very disabling. But as research progresses treatment is slowly but surely becoming more and more effective. Fewer patients have to be kept in hospitals and damage to the brain is not as severe.

Scientists discovered the effects of oestrogen, and learned it could be used as a medicine (though long term medications using oestrogen have side effects). They discovered age and gender differences, and learned that there were structural changes even at a cellular level.

In conclusion, though schizophrenia is disabling and sometimes even deadly, modern science has made many medical breakthroughs, and perhaps, if it is even possible, scientists may discover a complete or partial cure.

1.9 SUGGESTED READINGS

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UNIT 2 PARANOID AND DELUSIONAL DISORDER

Structure

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- 2.2 Concept of Paranoia
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 - 2.2.2 Characteristic Features of Paranoia
 - 2.2.3 Symptoms of Paranoia
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2.0 INTRODUCTION

This unit deals with paranoia and delusional disorder. We start with the concept of paranoia, define paranoia and describe the characteristic features of the same. Then we

delineate the symptoms of paranoia and the kinds of paranoia that are obtained in this disorder. This is followed by Causes of paranoia wherein we deal with various factors including feelings of inferiority, emotional complex, personality type, hereditary factors, biological factors, environmental and psychological factors. We also mention the medical causes, other mental illnesses and substance abuse as a cause. Then we discuss delusional disorder. Delineating the characteristic features of this disorder we deal with the various types of delusional disorders especially the grandiose, erotomaniac etc., and then deal with the motivated or defensive delusions. Since delusions are obtained in various other psychiatric disorders, these aspects are then considered followed by the treatment approach to the paranoia and delusional disorders. We end up with the prognosis of these disorders.

2.1 OBJECTIVES

On completing this unit, you will be able to:

- Define paranoia and delusional disorders;
- Enlist various types of paranoia delusional disorders;
- Elucidate the Symptoms and causes of the disorders;
- Explain the Interventional approaches for the delusional disorders; and
- Analyse the prognosis.

2.2 CONCEPT OF PARANOIA

2.2.1 Definition of Paranoia

Here the patient becomes a prey to premature delusion. According to Kraepelin, in the disease the cause of delusion is internal, and no hallucination is involved.

A paranoid disorder is a medical illness, which happens to affect the brain, and causes changes in thinking and feeling. It's nobody's fault when it develops, and certainly does not mean any personal weakness or failure. It's an illness just as diabetes and asthma are illnesses.

It's not all that uncommon, either Paranoia disorder consists of pervasive, long-standing suspiciousness and generalised mistrust of others. Those with the condition are hypersensitive, are easily slighted, and habitually relate to the world by vigilant scanning of the environment for clues or suggestions to validate their prejudicial ideas or biases.

Paranoid individuals are eager observers. They think they are in danger and look for signs and threats of that danger, disregarding any facts. They tend to be guarded and suspicious and have quite constricted emotional lives. Their incapacity for meaningful emotional involvement and the general pattern of isolated withdrawal often lend a quality of schizoid isolation to their life experience.

Despite the pervasive suspicions they have of others, patients are not delusional (except in rare, brief instances brought on by stress). Most of the time, they are in touch with reality, except for their misinterpretation of others' motives and intentions.

Paranoid Personality Disorder patients are not psychotic but their conviction that others are trying to "get them" or humiliate them in some way often leads to hostility and social isolation.

The word *paranoia* comes from the Greek word *indicating* madness and the term was used to describe a mental illness in which a delusional belief is the sole or most prominent feature. In original attempt at classifying different forms of mental illness, Kraepelin used the term *pure paranoia* to describe a condition where a delusion was present, but without any apparent deterioration in intellectual abilities and without any of the other features of dementia praecox, the condition later renamed “schizophrenia”.

Notably, in his definition, the belief does not have to be persecutory to be classified as paranoid, so any number of delusional beliefs can be classified as paranoia. For example, a person who has the sole delusional belief that he is an important religious figure would be classified by Kraepelin as having pure paranoia.

Even at the present time, a delusion need not be suspicious or fearful to be classified as paranoid. A person might be diagnosed as a paranoid schizophrenic without delusions of persecution, simply because their delusions refer mainly to themselves.

2.2.2 Characteristic Features of Paranoia

People with this disorder do not trust other people. In fact, the central characteristic of people is a high degree of mistrustfulness and suspicion when interacting with others. Even friendly gestures are often interpreted as being manipulative or malevolent.

Whether the patterns of distrust and suspicion begin in childhood or in early adulthood, they quickly come to dominate the lives of those suffering from the said disorder. Such people are unable or afraid to form close relationships with others. They suspect strangers, and even people they know, of planning to harm or exploit them when there is no good evidence to support this belief. As a result of their constant concern about the lack of trustworthiness of others, patients with this disorder do not have intimate friends or close human contacts. They do not fit in and they do not make good “team players.”

Interactions with others are characterised by wariness and not infrequently by hostility. If they marry or become otherwise attached to someone, the relationship is often characterised by pathological jealousy and attempts to control their partner. They often assume their sexual partner is “cheating” on them. People suffering from this disorder are very difficult to deal with. They never seem to let down their defenses. They are always looking for and finding evidence that others are against them.

Their fear, and the threats they perceive in the innocent statements and actions of others, often contributes to frequent complaining or unfriendly withdrawal or aloofness. They can be confrontational, aggressive and disputatious. It is not unusual for them to sue people they feel have wronged them. In addition, patients with this disorder are known for their tendency to become violent. Individual counseling seems to work best but it requires a great deal of patience and skill on the part of the therapist. Phelan, M. Padraig, W. Stern, J (2000) paranoia and paraphrenia are debated entities that were detached from dementia praecox by Kraepelin, who explained paranoia as a continuous systematized delusion arising much later in life with no presence of either hallucinations or a deteriorating course, paraphrenia as an identical syndrome to paranoia but with hallucinations.

2.2.3 Symptoms of Paranoia

The main symptom is permanent delusion. It should be kept in mind that there is delusion in schizophrenia also but in that case it is not permanent or organised. In paranoia the symptoms of delusion appear gradually, and the patient is sentimental, suspicious, irritable,

introverted, depressed, obstinate, jealous, selfish, unsocial and bitter. Hence his social and family adjustment is not desirable, and while he has the highest desirable, the effort that he is prepared to expend is correspondingly little. Here the person does not acknowledge his own failures or faults, and by sometimes accepting certain qualities as belonging to himself, even when imaginary, he develops paranoia.

The “Diagnostic and Statistical Manual of Mental Disorders”, fourth edition (DSM-IV), the US manual of the mental health professional, lists the following symptoms for paranoid personality disorder:

- Preoccupied with unsupported doubts about friends or associates.
- Suspicious; unfounded suspicions; believes others are plotting against him/her.
- Perceives attacks on his/her reputation that are not clear to others, and is quick to counterattack.
- Maintains unfounded suspicions regarding the fidelity of a spouse or significant other.
- Reads negative meanings into innocuous remarks.
- Reluctant to confide in others due to a fear that information may be used against him/her.
- Self-referential thinking: Sensing that other people in the world are always talking about the paranoid individual.
- Thought broadcasting: The sense that other people can read the paranoid individual's mind.
- Magical thinking: The sense that the paranoid individual can use his or her thoughts to influence other people's thoughts and actions.
- Thought withdrawal: The sense that people are stealing the paranoid individual's thoughts.
- Thought insertion: The sense that people are putting thoughts into the paranoid individual's mind.
- Ideas of reference: The sense that the television and/or radio are specifically addressing the paranoid individual.

2.2.4 Kinds of Paranoia

Persecutory paranoia : This is the most prevalent type of paranoia, and in this patient makes himself believe that all those around him are his enemies, bent on harming him or even taking his life. In this delusion people of an aggressive temperament often turns dangerous killers.

Religious paranoia : Here the patients suffer from a permanent delusion of a primarily religious nature. He for example believes, that he is the messenger of God who has been sent to the world to propagate some religion.

Reformatory paranoia : In this the patient turns to considering himself a great reformer. He accordingly looks upon all those around him. As suffering from dangerous disease, and believes that he is their reformer and curator.

Erotic paranoia : Here the patient often tends to believe that some members of the family of the opposite sex, belonging to an illustrious family, want to marry him. Such people even write love letters and there by, cause much botheration to other people.

Litigious paranoia : In this kind the patient takes to feeling meaningless cases against other people and feels that people are linked together to bother him. Sometimes he, even tries to murder.

Hypochondrical paranoia : In this kind the patients believes that he is suffering from all kind of ridiculous diseases, and also that some other people are to blame for his suffering.

Self Assessment Qeustions

1) Define Paranoia and bring out the characteristic features of this disorder.

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2) What are the symptoms of paranoia?

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3) What are the different kinds of paranoia?

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2.3 CAUSES OF PARANOIA

2.3.1 Homosexual Fixation

According to Freud, the patient suffering from the disease has repressed his tendency to homosexual love to such an extent that he develops a fixation concerning it. Freud's view has been found correct in many cases, but it does not explain each and every case of the disease.

2.3.2 Feelings of Inferiority

Here the psychologists have found that the main cause of paranoia is a sense of inferiority that may be caused by a variety of condition such as failure, disgust, sense of guilt.

2.3.3 Emotional Complex

Certain psychologist points out emotional complexes, and also believe that they are seen to be present in other mental diseases as also in normal individuals.

2.3.4 Personality Type

Cameron believes a certain type to be more susceptible to this disease, a personality that has sentimentality, jealousy, suspicion, ambition, selfishness and shyness etc. Patients of paranoia do exhibit these peculiarities of personality but on this basis they cannot be said to belong to definite personality.

2.3.5 Heredity

In the opinion of Fisher the main responsibility of paranoia lies fairly and squarely upon heredity, although he does not deny the importance of repression and emotional complexes.

The causes of paranoia are not physical because no patient exhibits any signs of physical deformity and among the causes there are many important” ones, such as defects of personality, sense of inferiority, repression etc.

2.3.6 Biological

Researchers are studying how abnormalities of certain areas of the brain might be involved in the development of delusional disorders. An imbalance of certain chemicals in the brain, called neurotransmitters, also has been linked to the formation of delusional symptoms. Neurotransmitters are substances that help nerve cells in the brain send messages to each other. An imbalance in these chemicals can interfere with the transmission of messages, leading to symptoms.

2.3.7 Environmental/Psychological

Evidence suggests that delusional disorder can be triggered by stress. Alcohol and drug abuse also might contribute to the condition. People who tend to be isolated, such as immigrants or those with poor sight and hearing, appear to be more vulnerable to developing delusional disorder.

2.3.8 Dysfunctional Cognitive Processing

An elaborate term for thinking is “cognitive processing.” Delusions may arise from distorted ways people have of explaining life to themselves. The most prominent cognitive problems involve the manner in which delusion sufferers develop conclusions both about other people, and about causation of unusual perceptions or negative events.

Studies examining how people with delusions develop theories about reality show that the subjects have ideas which which they tend to reach an inference based on less information than most people use.

This “jumping to conclusions” bias can lead to delusional interpretations of ordinary events. For example, developing flu-like symptoms coinciding with the week new neighbours move in might lead to the conclusion, “the new neighbours are poisoning me.”

The conclusion is drawn without considering alternative explanations—catching an illness from a relative with the flu, that a virus seems to be going around at work, or that the tuna salad from lunch at the deli may have been spoiled.

Additional research shows that persons prone to delusions “read” people differently than non-delusional individuals do. Whether they do so more accurately or particularly poorly is a matter of controversy.

Delusional persons develop interpretations about how others view them that are distorted. They tend to view life as a continuing series of threatening events. When these two aspects of thought co-occur, a tendency to develop delusions about others wishing to do them harm is likely.

2.3.9 Medical Causes

Many medical conditions can lead to paranoid thoughts. Alzheimer’s disease, chemical deficiencies, cathinone poisoning and neurological degeneration disorders can harm the nervous system and lead to confusion and unstable emotions. Sufferers of these conditions sometimes forget who they can trust and also lose the ability to differentiate between trustworthy and suspicious behaviour.

2.3.10 Associated Mental Illnesses

Some mental illnesses are associated with paranoia. An inability to think clearly can cause an individual to lose the ability to differentiate between trustworthy and not trustworthy individuals. Schizophrenia causes an individual to have bizarre or disorganised thoughts. Some individuals hallucinate and begin to believe that which they hallucinate rather than their friends and family members. Psychosis involves a detachment from reality that can lead to paranoid thoughts.

2.3.11 Substance Abuse

Many substances lead to paranoia if abused: alcohol, amphetamines, crack, crystal meth, cocaine, ecstasy, marijuana, narcotics, opioids, opium, pain killers, oxycodone, sleeping pills and tranquilizers. Withdrawal from many of these substances can also trigger paranoid thoughts, so withdrawal must be handled carefully with close supervision.

Self Assessment Questions

1) What are the causes of paranoia?

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2) Discuss feelings of inferiority and emotional complex as causes of paranoia.

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3) Delineate the hereditary factors and biological factors as causes of paranoia.

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4) What is dysfunctional cognitive processing?

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5) What are the medical causes and associated mental illnesses as causes of paranoia?

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2.4 DELUSIONAL DISORDER

Delusions are irrational beliefs, held with a high level of conviction, that are highly resistant to change even when the delusional person is exposed to forms of proof that contradict the belief.

Non-bizarre delusions are considered to be plausible; that is, there is a possibility that what the person believes to be true could actually occur a small proportion of the time. Conversely, bizarre delusions focus on matters that would be impossible in reality. For example, a non-bizarre delusion might be the belief that one's activities are constantly under observation by federal law enforcement or intelligence agencies, which actually does occur for a small number of people.

By contrast, a man who believes he is pregnant with German Shepherd puppies holds a belief that could never come to pass in reality. Also, for beliefs to be considered delusional, the content or themes of the beliefs must be uncommon in the person's culture or religion. Generally, in delusional disorder, these mistaken beliefs are organised into a consistent world-view that is logical other than being based on an improbable foundation.

2.4.1 Characteristic Features

Unlike most other psychotic disorders, the person with delusional disorder typically does not appear obviously odd, strange or peculiar during periods of active illness. Yet the person might make unusual choices in day-to-day life because of the delusional beliefs. Expanding on the previous example, people who believe they are under government observation might seem typical in most ways but could refuse to have a

telephone or use credit cards in order to make it harder for “those Federal agents” to monitor purchases and conversations.

Most mental health professionals would concur that until the person with delusional disorder discusses the areas of life affected by the delusions, it would be difficult to distinguish the sufferer from members of the general public who are not psychiatrically disturbed. Another distinction of delusional disorder compared with other psychotic disorders is that hallucinations are either absent or occur infrequently.

The person with delusional disorder may or may not come to the attention of mental health providers. Typically, while delusional disorder sufferers may be distressed about the delusional “reality,” they may not have the insight to see that anything is wrong with the way they are thinking or functioning. Regarding the earlier example, those suffering delusion might state that the only thing wrong or upsetting in their lives is that the government is spying, and if the surveillance would cease, so would the problems.

Similarly, the people suffering the disorder attribute any obstacles or problems in functioning to the delusional reality, separating it from their internal control. Furthermore, whether unable to get a good job or maintain a romantic relationship, the difficulties would be blamed on “government interference” rather than on their own failures or omissions.

Unless the form of the delusions causes illegal behaviour, somehow affects an ability to work, or otherwise deal with daily activities, the delusional disorder sufferer may adapt well enough to navigate life without coming to clinical attention. When people with delusional disorder decide to seek mental health care, the motivation for getting treatment is usually to decrease the negative emotions of depression, fearfulness, rage, or constant worry caused by living under the cloud of delusional beliefs, not to change the unusual thoughts themselves.

Delusional disorder, previously called paranoid disorder, is a type of serious mental illness called a “psychosis” in which a person cannot tell what is real from what is imagined. The main feature of this disorder is the presence of delusions, which are unshakable beliefs in something untrue.

People with delusional disorder experience non-bizarre delusions, which involve situations that could occur in real life, such as being followed, poisoned, deceived, conspired against, or loved from a distance. These delusions usually involve the misinterpretation of perceptions or experiences. In reality, however, the situations are either not true at all or highly exaggerated.

People with delusional disorder often can continue to socialise and function normally, apart from the subject of their delusion, and generally do not behave in an obviously odd or bizarre manner. This is unlike people with other psychotic disorders, who also might have delusions as a symptom of their disorder. In some cases, however, people with delusional disorder might become so preoccupied with their delusions that their lives are disrupted.

Psychiatrists make a distinction between the milder paranoid personality disorder described above and the more debilitating delusional (paranoid) disorder. The hallmark of this disorder is the presence of a persistent, nonbizarre delusion without symptoms of any other mental disorder.

Delusions are firmly held beliefs that are untrue, not shared by others in the culture, and not easily modifiable. Five delusional themes are frequently seen in delusional disorder. In some individuals, more than one of them is present.

Whether or not persons with delusional disorder are dangerous to others has not been systematically investigated, but clinical experience suggests that such persons are rarely homicidal. Delusional patients are commonly angry people, and thus they are perceived as threatening. In the rare instances when individuals with delusional disorder do become violent, their victims are usually people who unwittingly fit into their delusional scheme. The person in most danger from an individual with delusional disorder is a spouse or lover.

2.4.2 Types of Delusional Disorder

Paranoia is an unfounded or exaggerated distrust of others, sometimes reaching delusional proportions. Paranoid individuals constantly suspect the motives of those around them, and believe that certain individuals, or people in general, are “out to get them.”

Paranoid perceptions and behaviour may appear as features of a number of mental illnesses, including depression and dementia, but are most prominent in three types of psychological disorders: paranoid schizophrenia, delusional disorder (persecutory type), and paranoid personality disorder (PPD).

Individuals with paranoid schizophrenia and persecutory delusional disorder experience what is known as persecutory delusions: an irrational, yet unshakable, belief that someone is plotting against them. Persecutory delusions in paranoid schizophrenia are bizarre, sometimes grandiose, and often accompanied by auditory hallucinations. Individuals with delusional disorder may seem offbeat or quirky rather than mentally ill, and, as such, may never seek treatment.

Persons with paranoid personality disorder (PPD) tend to be self-centered, self-important, defensive, and emotionally distant. Their paranoia manifests itself in constant suspicions rather than full-blown delusions. The disorder often impedes social and personal relationships and career advancement. Some individuals with PPD are described as “litigious,” as they are constantly initiating frivolous law suits. PPD is more common in men than in women, and typically begins in early adulthood.

The exact cause of paranoia is unknown. Potential causal factors may be genetics, neurological abnormalities, changes in brain chemistry, and stress. Paranoia is also a possible side effect of drug use and abuse (for example, alcohol, marijuana, amphetamines, cocaine, PCP). Acute, or short term, paranoia may occur in some individuals overwhelmed by stress.

The diagnosis of patients with paranoid symptoms includes a thorough physical examination and patient history to rule out possible organic causes (such as dementia) or environmental causes (such as extreme stress). If a psychological cause is suspected, a psychologist will conduct an interview with the patient and may administer one of several tests to evaluate mental status.

Paranoia that is symptomatic of paranoid schizophrenia, delusional disorder, or paranoid personality disorder should be treated by a psychologist and/or psychiatrist. **Antipsychotic** medication such as thioridazine (Mellaril), haloperidol (Haldol), chlorpromazine (Thorazine), clozapine (Clozaril), or risperidone (Risperdal) may be prescribed, and cognitive therapy or psychotherapy may be employed to help the patient cope with their paranoia and/or persecutory delusions. It is uncertain whether antipsychotic medication benefit individuals with paranoid personality disorder and may even pose long-term risks.

If an underlying condition, such as depression or drug abuse, is found to be triggering the paranoia, an appropriate course of medication and/or psychosocial therapy is employed to treat the primary disorder.

Because of the inherent mistrust felt by paranoid individuals, they often must be coerced into entering treatment. As unwilling participants, their recovery may be hampered by efforts to sabotage treatment (for example, not taking medication or not being forthcoming with a therapist). They may also exhibit a lack of insight into their condition or the belief that the therapist is plotting against them. Although their lifestyles may be restricted, some patients with PPD or persecutory delusional disorder continue to function in society without treatment.

Distrust is the hallmark of delusional disorder. Someone who suffers from this disorder is very defensive, sometimes to the point of being aggressive, and may constantly question the motives of others. Even if people appear harmless on the surface, the patient believes that they are simply trying to lull the patient into a sense of complacency, and the patient will remain on guard as a result. Other symptoms of delusional disorder can include a sense of social isolation caused in part by the patient's defensive and suspicious behaviour, and a lack of humor.

2.4.3 Delusion of Grandeur

In this patient believes himself to be, a great individual, and according to Bleuler, this delusion of grandeur accompanies a persecutory delusion. A delusion is (common in paranoia) that you are much greater and more powerful and influential than you really are.

One of the toughest psychiatric anomalies both to diagnose and treat is delusion disorder like delusion of grandeur, delusional paranoid, even delusional jealousy. The reason why diagnosis can be tough is the person is often working quite typically in the world. The delusions in this disorder are non bizarre, meaning that they can essentially be plausible even if they are not true. Those suffering from this disorder often will not believe they have a problem, so it is difficult to get them into treatment.

While paranoia is the most typical manifestation, there are more types of delusion disorder including delusion of grandeur, delusional paranoid, even delusional jealousy as well as for example, believing one is the secret love interest of a famous person, being convinced one has striking abilities or is very significant, worrying about physical problems or disfigurements that do not exist, or believing that one's romantic partner is unfaithful. Psychological fitness treatment is sometimes refused because of these convictions, which are immune to any sort of disproof. The patient is certain they are correct.

Therapists who are ready to be used slightly different treatments, instead adopt the more usual drugs or characteristic psychotherapy approaches. They may gain the patient's trust enough to begin exploring any doubts the person expresses about their own ideology. The two of them can work in partnership, gradually discovering real world explanations for those ideology. If the therapist treads conscientiously and uses tactfully, then the patient and therapist together can work through the delusion disorder like delusion of grandeur, delusional paranoid, even delusional jealousy and effect a cure.

2.4.4 Motivated or Defensive Delusions

Some predisposed persons might suffer the onset of an ongoing delusional disorder when coping with life and maintaining high self esteem becomes a significant challenge. In order to preserve a positive view of oneself, a person views others as the cause of personal difficulties that may occur. This can then become an ingrained pattern of thought.

2.5 DELUSIONS AND OTHER DISORDERS

Even though the main characteristic of delusional disorder is a noticeable system of delusional beliefs, delusions may occur in the course of a large number of other psychiatric disorders.

Delusions are often observed in persons with other psychotic disorders such as schizophrenia and schizoaffective disorder. In addition to occurring in the psychotic disorders, delusions also may be evident as part of a response to physical, medical conditions (such as brain injury or brain tumors), or reactions to ingestion of a drug.

Delusions also occur in the dementias, which are syndromes wherein psychiatric symptoms and memory loss result from deterioration of brain tissue. Because delusions can be shown as part of many illnesses, the diagnosis of delusional disorder is partially conducted by process of elimination.

If the delusions are not accompanied by persistent, recurring hallucinations, then schizophrenia and schizoaffective disorder are not appropriate diagnoses. If the delusions are not accompanied by memory loss, then dementia is ruled out.

If there is no physical illness or injury or other active biological cause (such as drug ingestion or drug withdrawal), then the delusions cannot be attributed to a general medical problem or drug-related causes. If delusions are the most obvious and pervasive symptom, without hallucinations, medical causation, drug influences or memory loss, then delusional disorder is the most appropriate categorisation.

Because delusions occur in many different disorders, some clinician researchers have argued that there is little usefulness in focusing on what diagnosis the person has been given.

Those who ascribe to this view believe it is more important to focus on the symptom of delusional thinking, and find ways to have an effect on delusions, whether they occur in delusional disorder or schizophrenia or schizoaffective disorder.

The majority of psychotherapy techniques used in delusional disorder come from symptom-focused (as opposed to diagnosis-focused) researcher-practitioners.

Self Assessment Questions

- 1) What is Delusional Disorder? Define and bring out its characteristic features.

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- 2) What are delusions of grandeur?

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3) Describe delusions of persecution and erotomania.

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4) What are motivated defensive delusions?

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5) Discuss delusions as part of other psychiatric disorders.

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2.6 TREATMENT APPROACHES TO PARANOIA AND DELUSIONAL DISORDER

A cure of paranoia is very difficult and it is essential that treatment should be started immediately the disease comes to be known. Once it grows on a person there is no curing to it. The chief method of curing it is the following:

2.6.1 Treatment and Cure

A cure of paranoia is very difficult and it is essential that treatment should be started immediately the disease comes to be known. Once it grows on a person there is no curing to it. The chief method of curing it is the administering Injection of Insulin. Some patients also responds to this treatment but this cannot be said of all.

2.6.2 Psychoanalytic Method

Compared to other mental diseases, this disease does not respond immediately to psychoanalytic treatment because, being suspicious, the patient does not cooperate with the doctor. Even then, with due precaution, certain results can be achieved by employing this method.

2.6.3 Cognitive Behavioural Therapy (CBT)

CBT or other forms of psychotherapy may be helpful for certain people who have paranoia. CBT attempts to make a person more aware of his or her actions and motivations, and tries to help the individual learn to more accurately interpret cues around him or her, in an effort to help the individual change dysfunctional behaviours. Difficulty can enter into a therapeutic relationship with a paranoid individual, due to the level of mistrust and suspicion that is likely to interfere with their ability to participate in this form of treatment.

Support groups can be helpful for some paranoid individuals—particularly helpful in assisting family members and friends who must learn to live with, and care for paranoid individuals.

2.6.4 Drug Therapy

Treatment with appropriate antipsychotic drugs may help the paranoid patient overcome some symptoms. Although the patient's functioning may be improved, the paranoid symptoms often remain intact. Some studies indicate that symptoms improve following drug treatment, but the same results sometimes occur among patients who receive a placebo, a "sugar pill" without active ingredients. This finding suggests that in some cases the paranoia diminishes for psychological reasons rather than because of the drug's action.

Delusional disorder treatment often involves *atypical* (also called *novel* or *newer-generation*) antipsychotic medications, which can be effective in some patients. Risperidone (Risperdal), quetiapine (Seroquel), and olanzapine (Zyprexa) are all examples of atypical or novel antipsychotic medications.

If *agitation* occurs, a number of different antipsychotics can be used to conclude the outbreak of acute agitation. Agitation, a state of frantic activity experienced concurrently with anger or exaggerated fearfulness, increases the risk that the client will endanger self or others.

To decrease anxiety and slow behaviour in emergency situations where agitation is a factor, an injection of haloperidol (Haldol) is often given usually in combination with other medications (often lorazepam, also known as Ativan).

Agitation in delusional disorder is a typical response to severe or harsh confrontation when dealing with the existence of the delusions. It can also be a result of blocking the individual from performing inappropriate actions the client views as urgent in light of the delusional reality.

A novel antipsychotic is generally given orally on a daily basis for ongoing treatment meant for long-term effect on the symptoms.

Response to antipsychotics in delusional disorder seems to follow the "rule of thirds," in which about one-third of patients respond somewhat positively, one-third show little change, and one-third worsen or are unable to comply.

Cognitive therapy has shown promise as an emerging treatment for delusions. The cognitive therapist tries to capitalise on any doubt the individual has about the delusions; then attempts to develop a joint effort with the sufferer to generate alternative explanations, assisting the client in checking the evidence. This examination proceeds in favour of the various explanations.

Much of the work is done by use of empathy, asking hypothetical questions in a form of therapeutic Socratic dialogue—a process that follows a basic question and answer format, figuring out what is known and unknown before reaching a logical conclusion.

2.6.5 Combining Pharmacotherapy with Cognitive Therapy

The integration of both the treatment may bring out the possible underlying biological problems and the symptoms can be reduced with psychotherapy.

2.6.6 Psychotherapy

This is the primary treatment for delusional disorder, including psychosocial treatment which can help with the behavioural and psychological problems associated with delusional disorder. Through therapy, patients also can learn to control their symptoms,

identify early warning signs of relapse, and develop a relapse prevention plan. Psychosocial therapies include the following:

Individual psychotherapy: Can help the person recognise and correct the underlying thinking that has become distorted.

Cognitive behavioural therapy (CBT): Can help the person learn to recognise and change thought patterns and behaviours that lead to troublesome feelings.

Family therapy: Can help families deal more effectively with a loved one who has delusional disorder, enabling them to contribute to a better outcome for the person.

2.6.7 Prognosis of Paranoia and Delusional Disorder

Predicting the prognosis of an individual suffering from Paranoia is quite difficult. Paranoia generally becomes a whole life or lifelong condition if there exists any underlying mental disorder, such as schizophrenia or paranoid personality disorder. It certainly and sometimes get better with some treatments or remission or with slight changes in medication. People who have symptoms of paranoia as part of another medical condition may also have a waxing and waning mental course.

Sometimes it is the case that paranoia is caused by the use of a particular drug or medication. In this case, it is possible that discontinuing that substance may completely reverse the symptoms of paranoia.

Paranoia can also occur as a symptom of other neurological diseases. Individuals suffering from the aftereffects of strokes, brain injuries, various types of **dementia** (including Alzheimer's disease), Huntington's disease, and Parkinson's disease may manifest paranoia as part of their symptom complex. The paranoia may decrease in intensity when the underlying disease is effectively treated, although since many of these diseases are progressive, the paranoia may worsen over time along with the progression of the disease's other symptoms.

2.7 LET US SUM UP

We defined paranoia as a medical illness, which happens to affect the brain, and causes changes in thinking and feeling. Those with the condition are hypersensitive, are easily slighted, and habitually relate to the world by vigilant scanning of the environment for clues or suggestions to validate their prejudicial ideas or biases.

Paranoid individuals are eager observers. They think they are in danger and look for signs and threats of that danger, disregarding any facts. They tend to be guarded and suspicious and have quite constricted emotional lives. Their incapacity for meaningful emotional involvement and the general pattern of isolated withdrawal often lend a quality of schizoid isolation to their life experience.

Even at the present time, a delusion need not be suspicious or fearful to be classified as paranoid. A person might be diagnosed as a paranoid schizophrenic without delusions of persecution, simply because their delusions refer mainly to themselves.

Their fear, and the threats they perceive in the innocent statements and actions of others, often contributes to frequent complaining or unfriendly withdrawal or aloofness. They can be confrontational, aggressive and disputatious. It is not unusual for them to sue people they feel have wronged them. The main symptom of paranoia is permanent delusion. It should be kept in mind that there is delusion in schizophrenia also but in that case it is not permanent or organised. In paranoia the symptoms of delusion appear gradually, and the patient is sentimental, suspicious, irritable, introverted, depressed,

obstinate, jealous, selfish, unsocial and bitter. Hence his social and family adjustment is not desirable, and while he has the highest desirable, the effort that he is prepared to expend is correspondingly little.

The “Diagnostic and Statistical Manual of Mental Disorders”, fourth edition (DSM-IV), has listed the symptoms of paranoid personality disorder:

Then we deal with different kinds of paranoia such as the persecutory, religious, reformatory, erotic, litigious etc. Then the causes of paranoia were delineated.

Delusions are often observed in persons with other psychotic disorders such as schizophrenia and schizoaffective disorder. In addition to occurring in the psychotic disorders, delusions also may be evident as part of a response to physical, medical conditions (such as brain injury or brain tumors), or reactions to ingestion of a drug.

Delusions also occur in the dementias, which are syndromes wherein psychiatric symptoms and memory loss result from deterioration of brain tissue. Because delusions can be shown as part of many illnesses, the diagnosis of delusional disorder is partially conducted by process of elimination.

The majority of psychotherapy techniques used in delusional disorder come from symptom-focused (as opposed to diagnosis-focused) researcher-practitioners. A cure of paranoia is very difficult and it is essential that treatment should be started immediately the disease comes to be known. Once it grows on a person there is no curing to it. The chief method of curing it is the following:

Compared to other mental diseases, this disease does not respond immediately to psychoanalytic treatment because, being suspicious, the patient does not cooperate with the doctor. Even then, with due precaution, certain results can be achieved by employing this method.

CBT or other forms of psychotherapy may be helpful for certain people who have paranoia. CBT attempts to make a person more aware of his or her actions and motivations, and tries to help the individual learn to more accurately interpret cues around him or her, in an effort to help the individual change dysfunctional behaviours. Difficulty can enter into a therapeutic relationship with a paranoid individual, due to the level of mistrust and suspicion that is likely to interfere with their ability to participate in this form of treatment.

Delusional disorder treatment often involves *atypical* (also called *novel* or *newer-generation*) antipsychotic medications, which can be effective in some patients. Risperidone (Risperdal), quetiapine (Seroquel), and olanzapine (Zyprexa) are all examples of atypical or novel antipsychotic medications.

Predicting the prognosis of an individual suffering from Paranoia is quite difficult. Paranoia generally becomes a whole life or lifelong condition if there exists any underlying mental disorder, such as schizophrenia or paranoid personality disorder. It certainly and sometimes get better with some treatments or remission or with slight changes in medication. People who have symptoms of paranoia as part of another medical condition may also have a waxing and waning mental course.

2.8 UNIT END QUESTIONS

- 1) Define paranoia and delineate its characteristic features.
- 2) What are the symptoms of paranoia and what are its causes?
- 3) What are delusional disorders?
- 4) Describe in detail the delusional disorder of grandeur and persecution

- 5) What are motivated delusions?
- 6) What are the various treatment methods available for paranoia and delusional disorders? How effective they are?

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UNIT 3 PSYCHOTIC DISORDER DUE TO GENERAL MEDICAL CONDITION

Structure

- 3.0 Introduction
- 3.1 Objectives
- 3.2 Medical Conditions that may Cause Psychosis
 - 3.2.1 Neurologic Disorders that may Produce Psychiatric Symptoms
- 3.3 Symptoms of Psychotic Disorders
 - 3.3.1 Types of Psychotic Disorders
 - 3.3.2 Causes of Psychotic Disorders
- 3.4 Symptoms of Psychotic Disorders due to Medical Conditions
 - 3.4.1 Symptoms
 - 3.4.2 Types of Delusions
 - 3.4.3 Hallucinations
- 3.5 Causes of Psychotic Disorders due to Medical Conditions
 - 3.5.1 Functional Causes
 - 3.5.2 General Medical Conditions
 - 3.5.3 Psychoactive Drugs
 - 3.5.4 A Stress Response
 - 3.5.5 Postpartum Psychosis
- 3.6 Defense Mechanisms in Personality Disorders
 - 3.6.1 Culturally Defined Disorder
- 3.7 Treatment
 - 3.7.1 Early Intervention
 - 3.7.2 Hospitalisation
 - 3.7.3 Medications
 - 3.7.4 Psychosocial Therapy
- 3.8 Let Us Sum Up
- 3.9 Unit End Questions
- 3.10 Suggested Readings and References

3.0 INTRODUCTION

This unit deals with psychotic disorders caused by medical conditions. We start with explaining how these disorders caused by medical condition. Then we deal with the psychotic disorders associated with neurological disorders. Then we present the various features of psychotic disorders followed by symptoms of psychotic disorder. The symptoms include delusions and hallucinations which are explained in detail. Then we deal with the causes of psychological disorders due to medical conditions. Then we deal with defense mechanisms and treatment approaches to the psychotic disorders due to medical conditions.

3.1 OBJECTIVES

On completing this unit, you will be able to:

- Describe the medical conditions that cause psychotic disorder;
- Elucidate the Neurologic disorder that may cause psychotic symptoms;
- Explain the symptoms of psychotic disorders;
- Delineate the Causes of psychotic disorders due to medical conditions;
- Explain stress syndrome and postpartum psychosis;
- Describe the Defense mechanisms in psychotic disorders;
- Analyse the psychotic disorder in terms of Culturally defined disorder; and
- Enlist the various Treatment approaches to medically induced psychotic disorder.

3.2 MEDICAL CONDITIONS THAT MAY CAUSE PSYCHOSIS

According to the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)*, the psychiatric presentation of a medical illness is classified as “the presence of mental symptoms that are judged to be the direct physiological consequences of a general medical condition.” Therefore, understanding common psychiatric symptoms and the medical diseases that may cause or mimic them is of utmost importance. Failure to identify these underlying causal medical conditions can be potentially dangerous because serious and frequently reversible conditions can be overlooked. Proper diagnosis of a psychiatric illness necessitates investigation of all appropriate medical causes of the symptoms.

The following features suggest a medical origin to psychiatric symptoms:

- Late onset of initial presentation
- Known underlying medical condition
- A typical presentation of a specific psychiatric diagnosis
- Absence of personal and family history of psychiatric illnesses
- Illicit substance use
- Medication use
- Treatment resistance or unusual response to treatment
- Sudden onset of mental symptoms
- Abnormal vital signs
- Waxing and waning mental status.

Because multiple secondary causes of mental disorders exist, the major medical disorders that can induce psychiatric symptoms are listed in the Table below

Table: Medical Disorders that can Induce Psychiatric Symptoms***Psychotic Disorder Due to
General Medical
Condition**

Medical and Toxic Effects	CNS	Infectious	Metabolic/Endocrine	Cardiopulmonary	Other
• Alcohol • Cocaine • Marijuana • Phencyclidine (PCP) • Lysergic acid diethylamide (LSD) • Heroin • Amphetamines • Jimson weed • Gamma-hydroxybutyrate (GHB) • Benzodiazepines • Prescription drugs	• Subdural hematoma • Tumor • Aneurysm • Severe hypertension • Meningitis • Encephalitis • Normal pressure hydrocephalus • Seizure disorder • Multiple sclerosis	• Pneumonia • Urinary tract infection • Sepsis • Malaria • Legionnaire disease • Syphilis • Typhoid • Diphtheria • HIV • Rheumatic fever • Herpes	• Thyroid disorder • Adrenal disorder • Renal disorder • Hepatic disorder • Wilson disease • Hyperglycemia • Hypoglycemia • Vitamin deficiency • Electrolyte imbalances • Porphyria	• Myocardial infarction • Congestive heart failure • Hypoxia • Hypercarbia	• Systemic lupus erythematosus • Anemia • Vasculitis

*(Adapted from Williams E, Shepherd S. Medical clearance of psychiatric patients. *Emerg Med Clin North Am.* May 2000; 18;2; 193.)

3.2.1 Neurologic Disorders that may Produce Psychiatric Symptoms

Seizure disorder

Epilepsy is one of the most common chronic neurologic diseases, affecting approximately 1% of the US population. In India the prevalence is estimated to be 5.33 per 1000 population. Approximately 30-50% of patients with a seizure disorder have psychiatric symptoms sometime during the course of their illness. Increased psychopathology has been associated with different features (eg, seizure phenomenology, brain pathology, antiepileptic drug use, psychosocial factors).

In partial seizures, psychiatric signs abound, with memory dysfunction, affective auras, perceptual changes (e.g., hallucinations), and depersonalisation.

In temporal lobe epilepsy, the most common psychiatric abnormality is personality change. Development of psychosis is also described in temporal lobe epilepsy.

Parkinson disease

Parkinson disease (PD) is a disorder characterised by movement abnormalities caused by degeneration of the neurons in the substantia nigra. The prevalence of major depression in patients with PD is estimated to be 40%, with prevalence rates of 4-70%. The anxiety syndromes in PD are apparently related to an underlying brain disease, with evidence implicating noradrenergic dysfunction. In several studies, anxiety syndromes developed before or after the onset of motor symptoms.

Brain tumors

Brain tumors and cerebrovascular disease are important causes of psychiatric symptoms and patients with these diseases can present with virtually any symptom. A complete clinical history and neurologic examination are essential in diagnosing either condition. Given the nature of the onset and presentation of a cerebrovascular event, it is rarely misdiagnosed as a mental disorder. However, up to 50% of patients with brain tumors reportedly have manifestations of a psychiatric nature.

Frontal lobe tumors, which are responsible for approximately 88% of the patients with psychiatric symptoms, can elicit presenting signs such as cognitive impairment, personality change, or motor and language dysfunction.

Limbic and hypothalamic tumors can cause affective symptoms such as rage, mania, emotional lability, and altered sexual behaviour. They can also produce delusions involving complicated plots.

Hallucinations, which are often considered the hallmarks of psychiatric illness, can be caused by focal neurologic pathology.

Multiple sclerosis

Multiple sclerosis (MS) is a demyelinating disorder characterised by multiple episodes of symptoms of a neuropsychiatric nature related to multifocal lesions in the white matter of the CNS.

Symptoms can be categorised as cognitive and psychiatric. Abstract reasoning, planning, and organisational skills are some of the functions also affected by MS. Dementia may eventually ensue.

Meningitis

Acute bacterial, fungal, and viral meningitis can be associated with a psychiatric presentation with or without abnormal vital signs.

Patients usually present with acute confusion, headaches, memory impairments, and fever with possible neck stiffness.

Parathyroid disorder

Dysfunction of the parathyroid glands results in abnormalities in the regulation of electrolytes, especially calcium. Excessive excretion of parathyroid hormone results in a state of hypercalcemia. Hyperparathyroidism is frequently associated with significant psychiatric symptoms, which are caused by the resultant hypercalcemia and can precede other somatic manifestations of the illness. Patients can experience delirium, sudden dementia, depression, anxiety, psychosis, apathy, stupor, and coma.

Thyroid disorders

Patients with hyperthyroidism can present in various ways but commonly present with symptoms of anxiety, confusion, and agitated depression. Patients can also present with hypomania and frank psychosis. In most patients who present with depression or anxiety associated with hyperthyroidism without other psychiatric history, psychiatric symptoms usually resolve with treatment of the hyperthyroidism.

Similar to patients with hyperthyroidism, those with hypothyroidism often present with depression and anxiety.

Adrenal disorders

Adrenal disorders cause changes in the normal secretion of hormones from the adrenal cortex and may produce significant psychiatric symptoms. Patients with this condition can exhibit symptoms such as apathy, fatigue, depression, and irritability. Psychosis and confusion can also develop.

The existence of moderate-to-severe depression in up to 50% of patients with Cushing syndrome is well documented, with symptoms sometimes severe enough to lead to suicide. Decreased concentration and memory deficits may also be present.

Neuropsychiatric manifestations of patients with lupus have a prevalence of up to 75-90%. Major psychiatric symptoms include depression, emotional lability, delirium, and psychosis. The presence of severe depression or psychosis is associated with anti-P antibodies in the serum, which suggests an autoimmune mechanism for inducing mental symptoms.

Sodium imbalance

This causes irritability, Confusion, Anxiety, Delusions and hallucinations, etc. Without proper treatment, seizures, stupor, and coma ultimately ensue. Treatment consists of correcting the serum sodium level at a slow but adequate rate.

The clinical manifestations of stages of hepatic encephalopathy are listed below

Stage I

- Apathy
- Restlessness
- Impaired cognition
- Impaired handwriting
- Reversal of sleep rhythm

Stage II

- Lethargy
- Drowsiness
- Disorientation
- Asterixis
- Beginning of mood swings
- Beginning of behavioural disinhibition

Stage III

- Arousable stupor
- Hyperactive reflexes
- Short episodes of psychiatric symptoms

Stage IV - Coma (responsive only to pain)

Patients may also experience short episodes of depression, hypomania, anxiety, and obsessive-compulsive symptoms.

Dialysis dementia is a specific syndrome characterised by encephalopathy, dysarthria, dysphasia, poor memory, depression, paranoia, myoclonic jerking, and seizures.

Vitamin B-1 deficiency

Much more commonly today, thiamine deficiency manifests as Wernicke encephalopathy, often, but not exclusively, in individuals with heavy and prolonged alcohol use.

Vitamin B-12 deficiency

Deficiency of vitamin B-12 (cobalamin) is the cause of pernicious anemia. Psychiatric symptoms include depression, fatigue, psychosis, and progressive cognitive impairment can accompany neurologic symptoms.

Alcohol

Although volumes have been written concerning the pathologic changes in patients who use alcohol for short and long periods, a brief review is appropriate because patients in alcohol withdrawal can present with numerous psychiatric symptoms that can be fatal if not identified and treated quickly.

Withdrawal symptoms can emerge, particularly in the absence of a measurable blood alcohol level. Florid delirium tremens (DT) is the most serious and potentially fatal alcohol withdrawal syndrome. The clinical picture includes hallucinations (most commonly auditory and/or visual), gross confusion and disorientation, and autonomic hyperactivity (e.g. tachycardia, fever, sweating, hypertension). These patients are often agitated and paranoid and may not readily allow physical examination. The temptation to view an agitated, paranoid, overtly hallucinating patient as in need of nothing further than admission to a psychiatric unit may be a grave mistake because untreated DT is potentially fatal.

Patients may also present with hallucinations in a clear sensorium (differentiating it from DT), usually in the setting of recent cessation of or significant decrease in the amount of alcohol used. Known as alcoholic hallucinosis, the hallucinations (most frequently auditory) may be relatively brief, usually resolving within approximately 30 days, but they may persist. Recurrences are likely with continued alcohol use.

Cocaine and amphetamines

Cocaine is a powerful stimulant initially causing euphoria and increased alertness and energy. As the high wears off, the user may develop symptoms of anxiety and depression, often with drug craving. With continued regular use, symptoms of psychosis develop with hallucinations and frank paranoid delusions. The psychiatric presentation can appear similar to that observed in patients with chronic amphetamine abuse.

Hallucinogens

A brief mention must be made of lysergic acid diethylamide (LSD), a potent hallucinogen that causes intense and vivid hallucinations in a clear sensorium. LSD-elicited hallucinations are usually of relatively short duration, but flashbacks of varying intensity may occur in a small number of users.

Ecstasy

Depression, anxiety, and psychosis have also been described with regular use, and some of the symptoms persist for months after cessation of use.

Solvents

Long-term and heavy use can lead to hallucinations, cognitive impairment, personality change, and neurologic impairment, particularly cerebellar findings.

Heavy metals

Lead, mercury, manganese, arsenic, organophosphorus compounds, and others can cause psychiatric symptoms. Exposure is usually industrial or environmental and should be considered in the appropriate settings.

Self Assessment Questions

- 1) Describe seizure disorder in terms of producing psychotic symptoms.

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2) What role brain tumors play in producing psychotic symptoms?

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3) How does multiple sclerosis affect the medical condition and produce psychotic symptoms?

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4) Discuss thyroid disorder and the production of psychotic symptoms.

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5) How does sodium imbalance contribute to psychiatric disorders. Describe the stages?

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6) Which are the vitamin deficiencies cause psychiatric disorders? Explain.

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7) How do amphetamines, solvents and hallucinogens produce psychotic symptoms?

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3.3 SYMPTOMS OF PSYCHOTIC DISORDERS

In a psychotic disorder, perception and understanding of reality is severely impaired. Symptoms may include fixed but untrue beliefs (delusions), seeing visions or hearing voices (hallucinations), confusion, disorganised speech, exaggerated or diminished emotions, or bizarre behaviour. Level of functioning may be severely impaired with social withdrawal and inability to attend to work, relationships, or even basic personal care. Individuals generally have little awareness of the mental abnormalities associated with their illness. It may be impossible to identify a specific psychotic disorder due to insufficient information or contradictory findings. Psychotic symptoms are described as positive or negative.

1) *Positive symptoms*

Positive symptoms are delusions, hallucinations, bizarre behaviours, and thought broadcasting where the individual believes others can supernaturally influence his or her thoughts or vice versa.

2) *Negative symptoms*

Negative symptoms refer to a reduction or loss of normal functions such as restriction and flattening of emotions, severely reduced speech or thought, and lack of interest in goal-directed activities. A delusion is a firm belief that others cannot verify.

The delusional individual clings to the belief despite evidence to the contrary. A common type of delusion involves thoughts of persecution such as being spied upon or conspired against. There may also be delusions of grandeur where individuals believe they have extraordinary powers, are on a special mission, or think they are someone important such as Jesus Christ. The delusion is termed bizarre if it is not based on ordinary life experiences. An example is of aliens controlling an individual's body and / or thoughts.

Hallucinations are sensory perceptions that no one else can detect and can involve the sense of sight, touch, hearing, smell, or taste. Hearing voices is the most frequent hallucination in psychosis. The hallucinations occur when the individual is awake. Disorganised thoughts (loosening of associations) are characterised by jumping from one topic to another. Grossly disorganised behaviour can result in neglect of personal appearance and hygiene, proper nutrition, and other tasks of living.

The individual may dress inappropriately and act unpredictably such as shouting or swearing in public. Usually these disorders involve hallucinations or delusions that are very prominent. Psychosis is a symptom or feature of mental illness typically characterised by radical changes in personality, impaired functioning, and a distorted or non-existent sense of objective reality. Patients suffering from psychosis have impaired reality testing; that is, they are unable to distinguish personal, subjective experience from the reality of the external world. They experience hallucinations and/or delusions that they believe are real, and may behave and communicate in an inappropriate and incoherent fashion.

Psychosis may appear as a symptom of a number of mental disorders, including mood and personality disorders. It is also the defining feature of schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, and the psychotic disorders (i.e., brief psychotic disorder, shared psychotic disorder, psychotic disorder due to a general medical condition, and substance induced psychotic disorder). Psychosis may be caused by the interaction of biological and psychosocial factors depending on the disorder it presents. Psychosis can also be caused by purely social factors, with no biological component.

3.3.1 Types of Psychotic Disorders

According to the Diagnostic and Statistical Manual of Mental Disorders (2000), text revision (DSM IV TR), there is not an universal acceptance of the term *psychotic*, however the DSM IV TR definition refers to the existence of specific symptoms such as delusions, prominent hallucinations, disorganised speech, disorganised or catatonic behaviour. In layman's terms a psychotic individual could be described as someone who is "insane."

DSM IV TR is a manual that classifies and describes in great detail all mental disorders and is highly used in clinical, educational, and research settings. The manual further describes all of the psychotic disorders in greater detail. Those disorders are: Schizophrenia, Schizophreniform Disorder, Schizoaffective Disorder, Delusional Disorder, Brief Psychotic Disorder, Shared Psychotic Disorder, Psychotic Disorder Due to a General Medical Condition, Substance-Induced Psychotic Disorder, and Psychotic Disorder Not Otherwise Specified.

1) *Schizophrenia*

Schizophrenia is probably the one that most people are familiar with because it is seen most commonly in society and in the clinical setting. Schizophrenia is characterised as being a psychotic disorder that has to last for at least 6 months and include two or more of active phase symptoms (i.e. hallucinations or delusions) for at least 1 month.

2) *Schizophreniform disorder*

Schizophreniform Disorder is very similar to Schizophrenia except that it lasts from 1 to 6 months and also there 't have to be a decline in functioning.

3) *Schizoaffective disorder*

Schizoaffective Disorder is characterised by an individual having a mood episode and the active phase symptoms of Schizophrenia at the same time. Also there must have been at least 2 weeks of delusions or hallucinations (without mood symptoms) before or after the occurrence of them together.

4) *Delusional disorder*

An individual with Delusional Disorder must have had at least 1 month of non-bizarre symptoms without any other active phase symptoms. Brief Psychotic Disorder must last more than 1 day and goes away by 1 month. An individual with Shared Psychotic Disorder has delusions that have been influenced by someone else who has similar delusions.

A Psychotic Disorder Due to a General Medical Condition is due to direct relation from a physiological condition (i.e. psychosis due to lime disease from a tick bite).

A Substance-Induced Psychotic Disorder are due to a direct physiological condition from medication, drug abuse, or toxin exposure.

Psychotic Disorder Not Otherwise Specified is included in this section to describe all Psychotic Disorders that do not fit into any of the above criteria or when there is not enough information or contradictory information provided. Brief psychotic disorder is a short-term, time-limited disorder. An individual with brief psychotic disorder has experienced at least one of the major symptoms of **psychosis** for less than one month. **Hallucinations, delusions**, strange bodily movements or lack of movements (catatonic behaviour), peculiar speech and bizarre or markedly inappropriate behaviour are all classic psychotic symptoms that may occur in brief psychotic disorder.

3.3.2 Causes of Psychotic Disorder

The cause of the symptoms helps to determine whether or not the sufferer is described as having brief psychotic disorder. If the psychotic symptoms appear as a result of a physical disease, a reaction to medication, or intoxication with drugs or alcohol, then the unusual behaviours are not classified as brief psychotic disorder.

If hallucinations, delusions, or other psychotic symptoms occur at the same time that an individual is experiencing major clinical depression or bipolar (manic-depressive) disorder, then the brief psychotic disorder diagnosis is not given. The decision rules that allow the clinician to identify this cluster of symptoms as brief psychotic disorder are outlined in the Diagnostic and Statistical Manual of the Fourth Edition Text Revision, produced by the American Psychiatric Association. This manual is referred to by most mental health professionals as *DSM-IV-TR*.

Psychosis (from the Greek “psyche”, for mind/soul, and “-osis”, for abnormal condition) means abnormal condition of the mind, and is a generic psychiatric term for a mental state often described as involving a “loss of contact with reality”. People suffering from psychosis are described as *psychotic*. Psychosis is given to the more severe forms of psychiatric disorder, during which hallucinations and delusions and impaired insight may occur. Some professionals say that the term psychosis is not sufficient as some illnesses grouped under the term “psychosis” have nothing in common (Gelder, Mayou & Geddes 2005).

People experiencing psychosis may report hallucinations or delusional beliefs, and may exhibit personality changes and thought disorder. Depending on its severity, this may be accompanied by unusual or bizarre behaviour, as well as difficulty with social interaction and impairment in carrying out the daily life activities. A wide variety of central nervous system diseases, from both external poisons and internal physiologic illness, can produce symptoms of psychosis. Trauma and stress can cause a short-term psychosis (less than a month’s duration) known as brief psychotic disorder. Major life-changing events such as the death of a family member or a natural disaster have been known to stimulate brief psychotic disorder in patients with no prior history of mental illness.

Psychosis may also be triggered by an organic cause, termed a psychotic disorder due to a general medical condition. Organic sources of psychosis include neurological conditions (for example, epilepsy and cerebrovascular disease), metabolic conditions (for example, porphyria), endocrine conditions (for example, hyper- or hypothyroidism), renal failure, electrolyte imbalance, or autoimmune disorders. Common such underlying medical conditions are: thyroid disease with too much or too little thyroid hormone production; brain tumor; stroke; infection of central nervous system; epilepsy; liver or kidney disease; systemic lupus erythematosus with central nervous system involvement; severe fluid and electrolyte disturbances; metabolic conditions affecting blood sugar or oxygen content of the blood. There are more, but these illustrate the point. For instance, in temporal lobe epilepsy it is common to have the occasional patient develop religious delusions.

Other hallucinations associated with temporal lobe epilepsy are olfactory hallucinations such as smelling burning rubber or other unpleasant smells. In some patients the medical diagnosis is known and the hallucinations develop subsequently. In other patients the hallucinations are the first clue that there may be an underlying medical condition. If the psychotic condition starts at an age atypical for a psychotic disorder and visual or olfactory hallucinations are present, the clinician must think about a medical condition (or hidden drug abuse) that may cause these symptoms.

Self Assessment Questions

1) What are the positive and negative symptoms of psychotic disorders?

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2) Describe hallucinations and delusions.

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3) What are the various types of psychotic disorders?

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4) What are the causes of psychotic disorders? Explain.

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3.4 SYMPTOMS OF PSYCHOTIC DISORDERS DUE TO MEDICAL CONDITION

Psychosis is characterised by the following symptoms:

1) *Delusions*

An unshakable and irrational belief in something untrue. Delusions defy normal reasoning, and remain firm even when overwhelming proof is presented to disprove them.

2) *Hallucinations*

Psychosis causes false or distorted sensory experience that appear to be real. Psychotic patients often see, hear, smell, taste, or feel things that aren't there.

3) *Disorganised speech*

Psychotic patients often speak incoherently, using noises instead of words and "talking" in unintelligible speech patterns.

4) *Disorganised or catatonic behaviour*

Behavior that is completely inappropriate to the situation or environment. Catatonic patients have either a complete lack of or inappropriate excess of motor activity. They can be completely rigid and unable to move (vegetative), or in constant motion. Disorganised behaviour is unpredictable and inappropriate for a situation (e.g., screaming obscenities in the middle of class).

3.4.1 Symptoms

The main symptoms of this disorder are delusions and hallucinations. There has to be medical evidence that the symptoms are a direct physiological consequence of a medical condition. All other mental disorders have to be ruled out before this diagnosis is given. There are many medical conditions that can cause psychotic symptoms. These medical conditions include; epilepsy, multiple sclerosis, central nervous system infections and migraines. There are two subtypes of this disorder. The two subtypes are:

Delusions: The person has delusions. A delusion is a fixed belief that is either false, fanciful, or derived from deception. In psychiatry, it is defined to be a belief that is pathological (the result of an illness or illness process) and is held despite evidence to the contrary. As a pathology, it is distinct from a belief based on false or incomplete information, dogma, stupidity, poor memory, illusion, or other effects of perception.

Delusions typically occur in the context of neurological or mental illness, although they are not tied to any particular disease and have been found to occur in the context of many pathological states (both physical and mental). However, they are of particular diagnostic importance in psychotic disorders.

3.4.2 Types of Delusions

Delusions are categorised into different groups:

- 1) *Bizarre delusion:* A delusion that is very strange and completely implausible; an example of a bizarre delusion would be that aliens have removed the affected person's brain.
- 2) *Non-bizarre delusion:* A delusion that, though false, is at least possible, e.g., the affected person mistakenly believes that he is under constant police surveillance.
- 3) *Mood-congruent delusion:* Any delusion with content consistent with either a depressive or manic state, e.g., a depressed person believes that news anchors on television highly disapprove of him, or a person in a manic state might believe he is a powerful deity.
- 4) *Mood-neutral delusion:* A delusion that does not relate to the sufferer's emotional state; for example, a belief that an extra limb is growing out of the back of one's head is neutral to either depression or mania.
- 5) *Delusion of control:* This is a false belief that another person, group of people, or external force controls one's thoughts, feelings, impulses, or behaviour.
- 6) *Nihilistic delusion:* A person with this type of delusion may have the false belief that the world is ending.
- 7) *Delusional jealousy (or delusion of infidelity):* A person with this delusion falsely believes a spouse or lover is having an affair.
- 8) *Delusion of guilt or sin (or delusion of self-accusation):* This is a false feeling of remorse or guilt of delusional intensity.

- 9) *Delusion of mind being read*: The false belief that other people can know one's thoughts.
- 10) *Delusion of reference*: The person falsely believes that insignificant remarks, events, or objects in one's environment have personal meaning or significance.
- 11) *Erotomania*: A delusion where someone believes another person is in love with them.
- 12) *Grandiose delusion*: An individual is convinced he has special powers, talents, or abilities. Sometimes, the individual may actually believe he or she is a famous person or character (for example, a rock star).
- 13) *Persecutory delusion*: These are the most common type of delusions and involve the theme of being followed, harassed, cheated, poisoned or drugged, conspired against, spied on, attacked, or obstructed in the pursuit of goals.
- 14) *Religious delusion*: Any delusion with a religious or spiritual content. These may be combined with other delusions, such as grandiose delusions (the belief that the affected person is a god, or chosen to act as a god, for example).
- 15) *Somatic delusion*: A delusion whose content pertains to bodily functioning, bodily sensations, or physical appearance. Usually the false belief is that the body is somehow diseased, abnormal, or changed—for example, infested with parasites.
- 16) *Delusions of parasitosis (DOP) or delusional parasitosis*: a delusion in which one feels infested with an insect, bacteria, mite, spiders, lice, fleas, worms, or other organisms. Affected individuals may also report being repeatedly bitten. In some cases, entomologists are asked to investigate cases of mysterious bites. Sometimes physical manifestations may occur including skin lesions.
- 17) *Delusions of poverty*: The person strongly believes that he is financially incapacitated. Although this type of delusion is less common now, it is however interesting to note that it was particularly widespread in the days before state support

3.4.3 Hallucinations

The person has Hallucinations. Hallucinations can occur in any sensory modality (i.e., visual, olfactory, gustatory, tactile, or auditory), but certain etiological factors are likely to evoke specific hallucinatory phenomena. Olfactory hallucinations, especially those involving the smell of burning rubber or other unpleasant smells, are highly suggestive of temporal lobe epilepsy. Hallucinations may vary from simple and unformed to highly complex and organised, depending on etiological factors, environmental surroundings, nature and focus of the insult rendered to the central nervous system, and the reactive response to impairment. The latter definition distinguishes hallucinations from the related phenomena of dreaming, which does not involve wakefulness; illusion, which involves distorted or misinterpreted real perception; imagery, which does not mimic real perception and is under voluntary control; and pseudohallucination, which does not mimic real perception, but is not under voluntary control.^[1] Hallucinations also differ from “delusional perceptions”, in which a correctly sensed and interpreted genuine perception is given some additional (and typically bizarre) significance.

Hallucinations can occur in any sensory modality — visual, auditory, olfactory, gustatory, tactile, proprioceptive, equilibrioceptive, nociceptive, thermoceptive and chronoceptive.

Self Assessment Questions

1) What are the various symptoms of psychotic disorders due to medical conditions?

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2) Describe the symptoms of this disorder.

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3) What are the various types of delusions?

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4) Define hallucinations.

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5) What are the various types of hallucinations?

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3.5 CAUSES PSYCHOTIC DISORDERS DUE TO MEDICAL CONDITIONS

Psychosis may be caused by a number of biological and social factors, depending on the disorder underlying the symptom. Trauma and stress can induce a short-term psychosis known as brief psychotic disorder. This psychotic episode, which lasts a month or less, can be brought on by the stress of major life-changing events (e.g., death of a close friend or family member, natural disaster, traumatic event), and can occur in patients with no prior history of mental illness.

Psychosis can also occur as a result of an organic medical condition (known as psychotic disorder due to a general medical condition). Neurological conditions (e.g., epilepsy, migraines, Parkinson's disease, cerebrovascular disease, dementia), metabolic imbalances (hypoglycemia), endocrine disorders (hyper- and hypothyroidism), renal disease, electrolyte imbalance, and autoimmune disorders may all trigger psychotic episodes.

Hallucinogenics, PCP, amphetamines, cocaine, marijuana, and alcohol may cause a psychotic reaction during use, abuse, or withdrawal. Certain prescription medications such as anesthetics, anticonvulsants, chemotherapeutic agents, and antiparkinsonian medications may also induce psychotic symptoms as a side-effect. In addition, toxic substances like carbon dioxide and carbon monoxide, which may be deliberately or accidentally ingested, have been reported to cause substance-induced psychotic disorder.

3.5.1 Functional Causes

Functional causes of psychosis include the following:

- brain tumors
- drug abuse amphetamines, cocaine, marijuana, alcohol among others
- brain damage
- schizophrenia, schizophreniform disorder, schizoaffective disorder, brief psychotic disorder
- bipolar disorder (manic depression)
- severe clinical depression
- severe psychosocial stress
- sleep deprivation
- some focal epileptic disorders especially if the temporal lobe is affected
- exposure to some traumatic event (violent death, etc.)
- abrupt or over-rapid withdrawal from certain recreational or prescribed drugs.

A psychotic episode can be significantly affected by mood. For example, people experiencing a psychotic episode in the context of depression may experience persecutory or self-blaming delusions or hallucinations, while people experiencing a psychotic episode in the context of mania may form grandiose delusions.

Stress is known to contribute to and trigger psychotic states. A history of psychologically traumatic events, and the recent experience of a stressful event, can both contribute to the development of psychosis. Short-lived psychosis triggered by stress is known as brief reactive psychosis, and patients may spontaneously recover normal functioning within two weeks.

In some rare cases, individuals may remain in a state of full-blown psychosis for many years, or perhaps have attenuated psychotic symptoms (such as low intensity hallucinations) present at most times.

3.5.2 General Medical Conditions

Psychosis arising from “organic” (non-psychological) conditions is sometimes known as secondary psychosis. It can be associated with the following pathologies:

- neurological disorders, including:
- brain tumour
- dementia with Lewy bodies
- multiple sclerosis
- sarcoidosis
- Lyme Disease
- syphilis
- Alzheimer's Disease
- Parkinson's Disease.

3.5.3 Psychoactive Drugs

Various psychoactive substances (both legal and illegal) have been implicated in causing, exacerbating, and/or precipitating psychotic states and/or disorders in users. On the other hand, cannabis use has increased dramatically over the past few decades but declined in the last decade, whereas the rate of psychosis has not increased.

An early phase of schizophrenia.

Because of the similarities between brief psychotic disorder, **schizophreniform disorder** and **schizophrenia**, many clinicians have come to think of brief psychotic disorder as being the precursor to a lengthier psychotic disorder. Although this can only be identified retrospectively, brief psychotic disorder is often the diagnosis that was originally used when an individual (who later develops schizophrenia) experiences a first “psychotic break” from more typical functioning.

3.5.4 A Stress Response

At times, under severe **stress**, temporary psychotic reactions may appear. The source of stress can be from typical events encountered by many people in the course of a lifetime, such as being widowed or divorced. The severe stress may be more unusual, such as being in combat, enduring a natural disaster, or being taken hostage. The person generally returns to a normal method of functioning when the stress decreases or more support is available, or better coping skills are learned.

3.5.5 Postpartum Psychosis

In some susceptible women, dramatic hormonal changes in childbirth and shortly afterward can result in a form of brief psychotic disorder often referred to as *postpartum psychosis*. Unfortunately, postpartum conditions are often misidentified and improperly treated. In many cases of a mother killing her infant or committing **suicide**, postpartum psychosis is involved.

Self Assessment Questions

1) What are the causes of psychosis in general medical conditions?

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2) What are psychoactive drugs? How are they involved in producing psychotic symptoms?

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3) Describe a stress response in the context psychotic symptoms.

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3.6 DEFENSE MECHANISM IN PERSONALITY DISORDER

Persons with **personality disorders** appear to be more susceptible to developing brief psychotic reactions in response to stress. Individuals with personality disorders have not developed effective adult mechanisms for coping with life. When life becomes more demanding and difficult than can be tolerated, the person may lapse into a brief psychotic state.

3.6.1 Culturally Defined Disorder

Culture is a very important factor in understanding mental health and psychological disturbance, and brief psychotic disorder is an excellent example. The types of behaviour that occur during brief psychotic disorder are very much shaped by the expectations and traditions of the individual's culture. Many cultures have some form of mental disorder that would meet criteria for brief psychotic disorder the features of which are unique to that culture, wherein most sufferers have similar behaviours that are attributed to causes that are localised to that community. The *DSMIV-TR* calls disorders unique to certain societies or groups "culture-bound."

An example of a culture-bound syndrome is *koro*, a syndrome observed in Japan and some other areas of Asia but not elsewhere. Koro is an **obsession** to the point of delusion with the possibility that the genitals will retract or shrink into the body and cause death.

Conversely, while culture shapes the form a psychotic reaction may take, culture also determines what is *not* to be considered psychotic. Behaviours that in one culture would be thought of as bizarre or psychotic, may be acceptable in another. For example, some cultural groups and religions view "speaking in tongues" as a valuable expression of the gifts of God, whereas viewed out of context, the unrecognisable speech patterns might be viewed as psychotic. If the behaviours shown are culturally acceptable in the person's society or religion, and happen in an approved setting such as a religious service, then brief psychotic disorder would not be diagnosed.

3.7 TREATMENT

The treatment of psychosis depends on the cause or diagnosis or diagnoses (such as schizophrenia, bipolar disorder and/ or substance intoxication). The first line treatment for many psychotic disorders is antipsychotic medication (oral or intramuscular injection), and sometimes hospitalisation is needed. There is growing evidence that cognitive behaviour therapy and family therapy can be effective in managing psychotic symptoms.

3.7.1 Early Intervention

Early intervention in psychosis is a relatively new concept based on the observation that identifying and treating someone in the early stages of a psychosis can significantly improve their longer term outcome. This approach advocates the use of an intensive multi-disciplinary approach during what is known as the critical period, where intervention is the most effective, and prevents the long term morbidity associated with chronic psychotic illness.

Newer research into the effectiveness of cognitive behavioural therapy during the early pre-cursory stages of psychosis (also known as the “prodrome” or “at risk mental state”) suggests that such input can prevent or delay the onset of psychosis.

3.7.2 Hospitalisation

Hospitalisation is preferred when dealing with patients who exhibit severe symptoms of Schizophrenia. The aim of hospitalisation is to prevent them from hurting or injuring themselves and gain stability as they take medication.

Psychiatric hospitalisation may be needed to observe individuals and protect them from their own loss of reality, judgment, and impulse control. Antipsychotic medication may be given along with any appropriate psychotherapy. In certain situations, group therapy may be effective. Electroconvulsive therapy (ECT) is not as effective. Fifty to sixty percent of cases get better with ECT if the patient has a psychotic disorder (Ghaziuddin 119). With continued observation, it may be possible to reach a more specific diagnosis and initiate appropriate treatment. Psychosis caused by schizophrenia or another mental illness should be treated by a psychiatrist and/or psychologist. Other medical and mental health professionals may be part of the treatment team, depending on the severity of the psychosis and the needs of the patient. Medication and/or psychosocial therapy is typically employed to treat the underlying disorder.

3.7.3 Medications

Antipsychotic medications commonly prescribed to treat psychosis include risperidone (Risperdal), thioridazine (Mellaril), halperidol (Haldol), chlorpromazine (Thorazine), clozapine (Clozaril), loxapine (Loxitane), molindone hydrochloride (Moban), thiothixene (Navane), and olanzapine (Zyprexa). Possible common side-effects of antipsychotics include dry mouth, drowsiness, muscle stiffness, and hypotension. More serious side effects include tardive dyskinesia (involuntary movements of the body) and neuroleptic malignant syndrome (NMS), a potentially fatal condition characterised by muscle rigidity, altered mental status, and irregular pulse and blood pressure.

Once an acute psychotic episode has subsided, psychosocial therapy and living and vocational skills training may be recommended. Drug maintenance treatment is usually prescribed to prevent further episodes.

Antipsychotics are the primary medications for treating schizophrenia. This medicine

reduces disturbing symptoms like hallucinations and delusion. Some of the common medicines include Prolixin, Navane, Trilafon, Clozaril, Geodon and Zyprexa.

3.7.4 Psychosocial Therapy

Psychosocial therapy is considered the most effective in dealing with social, psychological and behavioural problems resulting from schizophrenia. Therapy includes rehabilitation which helps an individual to focus on skills and training to help an individual to be independent. Family therapy enables a person to interact and effectively deal with the family members.

3.8 LET US SUM UP

Thus it can be said that psychosis caused by a medical condition may be a single isolated incident or may be recurrent, cycling with the status of the underlying medical condition. Although treating the medical condition often results in the remission of the psychosis. The symptoms of psychosis sometimes persists long after the medical conditions and caused psychosis. Prominent hallucinations and delusions are the main cause for such psychotic development. Individuals with brief psychotic disorder experience delusions, hallucinations, and/or disorganised speech and behaviour that lasts for at least one day. However, these symptoms remit within one month, and their behaviour returns to normal. If the observed psychotic symptoms can be reasonably thought to have been due to a pre-existing mental illness diagnosis .

About 1% of the world's population has psychotic disorders. Symptoms for most psychotic disorders often first appear when an individual is in their late teens to 30's. Psychotic disorders affect men and women equally. Men more commonly develop symptoms of schizophrenia between 18 to 25 years old, while women tend to develop symptoms of schizophrenia between 25 years old to the mid 30's. Late onset (after 40 years old) is more common in women than in men. In psychosis persons with some preexisting vulnerability experience some stress and symptoms emerge as a result. Psychotic symptoms disrupt the lives and this need to be handle with the interventions like therapy, medications and early identification of the disorder.

3.9 UNIT END QUESTIONS

- 1) What are the symptoms of psychotic disorders due to general medical conditions?
- 2) What are the causes of psychotic disorders due to medical conditions?
- 3) What is meant by defense mechanisms in psychotic disorders?
- 4) What do we understand by culturally defined disorders?
- 5) Describe the early intervention as part of treatment of these disorders.
- 6) When are these patients hospitalised and what are the main reasons for the same?
- 7) Discuss the psychosocial therapy for psychotic disorders due to general medical condition.

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UNIT 4 SUBSTANCE INDUCED PSYCHOTIC DISORDER

Structure

- 4.0 Introduction
- 4.1 Objectives
- 4.2 Substance Induced Psychotic Disorders
 - 4.2.1 Causes of Substance Induced Psychotic Disorders
 - 4.2.2 Diagnosis of Substance Induced Psychotic Disorder
 - 4.2.3 Essential Features of Substance Induced Psychotic Disorders
 - 4.2.4 Difference Between Substance Induced Psychotic Disorders and Other Psychotic Disorders
- 4.3 Subtypes and Specifiers
- 4.4 Diagnosis
 - 4.4.1 Differential Diagnosis of Substance Induced Psychotic Disorder and Medicine Induced Psychotic Disorders
- 4.5 Treatments
 - 4.5.1 Hospitalisation
 - 4.5.2 Medical Care
 - 4.5.3 Counselling
 - 4.5.4 Detoxification
 - 4.5.5 Surgical Care
 - 4.5.6 Medications
 - 4.5.7 Prognosis
 - 4.5.8 Prevention
- 4.6 Let Us Sum Up
- 4.7 Unit End Questions
- 4.8 Suggested Readings

4.0 INTRODUCTION

In this unit we will be dealing with substance induced psychotic disorders. We begin with substance induced psychotic disorders in terms of what are psychotic disorders and what types of such disorders exist. This is followed by the type of substances that could induce these disorders. The various causes that lead to psychoactive substances and their effects resulting in psychotic reactions are discussed. This is followed by diagnostic criteria to decide the substance induced psychotic disorder. We then present the essential features of substance induced psychotic disorders and bring out the differences between these disorders and the medically induced psychotic disorders. This is followed by the subtypes of these disorders and the specifiers. We then use different criteria to diagnose these disorders and make a differential diagnosis of these disorder vis a vis other psychotic disorders. Then we take up the treatments of these

disorders which includes hospitalisation onwards to medical care, counseling and surgical care. The prognosis and prevention are discussed briefly.

4.1 OBJECTIVES

After completing this unit, you will be able to:

- Define substance induced psychotic disorder;
- Enlist various types of such psychotic disorders;
- Delineate the Symptoms and causes of the disorders;
- Explain the differential diagnosis of substance induced psychotic disorders vis a vis other psychotic disorders; and
- Analyse the different treatment approaches to these disorders.

4.2 SUBSTANCE INDUCED PSYCHOTIC DISORDER

Let us start with psychotic disorders.

Psychotic disorders are a group of serious illnesses that affect the mind. These illnesses alter a person's ability to think clearly, make good judgments, respond emotionally, communicate effectively, understand reality, and behave appropriately. When symptoms are severe, people with psychotic disorders have difficulty staying in touch with reality and often are unable to meet the ordinary demands of daily life. However, even the most severe psychotic disorders usually are treatable.

There are different types of psychotic disorders, including:

Schizophrenia: People with this illness have changes in behaviour and other symptoms — such as delusions and hallucinations — that last longer than six months, usually with a decline in work, school and social functioning.

Schizoaffective disorder: People with this illness have symptoms of both schizophrenia and a mood disorder, such as depression or bipolar disorder.

Schizophreniform disorder: People with this illness have symptoms of schizophrenia, but the symptoms last more than one month but less than six months.

Brief psychotic disorder: People with this illness have sudden, short periods of psychotic behaviour, often in response to a very stressful event, such as a death in the family. Recovery is often quick — usually less than a month.

Delusional disorder: People with this illness have delusions involving real-life situations that could be true, such as being followed, being conspired against or having a disease. These delusions persist for at least one month.

Shared psychotic disorder: This illness occurs when a person develops delusions in the context of a relationship with another person who already has his or her own delusion(s).

Substance-induced psychotic disorder: This condition is caused by the use of or withdrawal from some substances, such as alcohol and crack cocaine, that may cause hallucinations, delusions or confused speech.

Psychotic disorder due to a medical condition: Hallucinations, delusions or other

symptoms may be the result of another illness that affects brain function, such as a head injury or brain tumor.

Paraphrenia: This is a type of schizophrenia that starts late in life and occurs in the elderly population.

4.2.1 Causes of Substance Induced Psychotic Disorders

A large number of toxic or psychoactive substances can cause psychotic reactions. Such substance induced psychosis can occur in multiple ways.

These include the following:

- 1) People may inadvertently ingest toxic substances by accident, either because they do not know any better or by mistake.
- 2) People may take too much of a legitimately prescribed medicine, medicines may interact in unforeseen ways. Doctors may miscalculate the effects of medicines they prescribe.
- 3) People may overdose on recreational drugs they commonly use (such as cocaine), or become dependent on drugs or alcohol and experience psychotic symptoms while in withdrawal from those substances.
- 4) While the substance induced psychosis is triggered and then sustained by intoxication or withdrawal, its effects can continue long after intoxication or withdrawal has ended.
- 5) Drugs of abuse that can cause psychosis include alcohol, amphetamines, marijuana, cocaine, hallucinogens, inhalants, opioids, and sedative-hypnotics, including medicines that are sometimes used to treat anxiety.
- 6) Common over the counter and doctor prescribed medications that can cause psychosis include anesthetics, analgesics, anticholinergic agents, anticonvulsants, antihistamines, cardiovascular medications, antimicrobial medications, antiparkinsonian medications, chemotherapeutic agents, corticosteroids, gastrointestinal medications, muscle relaxants, nonsteroidal anti inflammatory medications like ibuprofen, and anti-depressants.
- 7) Environmental toxins reported to induce psychotic symptoms include anticholinesterase, organophosphate insecticides, nerve gases, carbon monoxide (car exhaust), carbon dioxide, and volatile substances such as fuel or paint.

4.2.2 Diagnosis of Substance Induced Psychotic Disorders

The following diagnostic criteria must be met before a diagnosis of Substance Induced Psychotic Disorder is warranted. According to the DSM IV TR the symptoms must be

- a) Prominent hallucinations or delusions
- b) Evidence from the history, physical examination, or laboratory findings of either (1) or (2) given below.
 - 1) The symptoms in Criterion A developed during, or within a month of, substance intoxication or withdrawal
 - 2) Medication use is etiologically related to the disturbance
- c) The disturbance is not better accounted for by a Psychotic Disorder that is not substance induced.

If it is other psychotic disorder, the symptoms would include the following:

- i) the symptoms would precede the onset of the substance use (or medication use);
 - ii) the symptoms persist for a substantial period of time (e.g., about a month) after the cessation of acute withdrawal or severe intoxication, or
 - iii) are substantially in excess of what would be expected given the type or amount of the substance used or the duration of use; or
 - iv) there is other evidence that suggests the existence of an independent non substance induced Psychotic Disorder, as for example, a history of recurrent non substance related episodes.
- d) The disturbance does not occur exclusively during the course of a delirium.

4.2.3 Essential Features of Substance Induced Psychotic Disorders

The essential features of Substance-Induced Psychotic Disorder are prominent hallucinations or delusions (Criterion A) that are judged to be due to the direct physiological effects of a substance.

Hallucinations that the individual realises are substance induced are not included here and instead would be diagnosed as Substance Intoxication or Substance Withdrawal with the accompanying specifier with Perceptual Disturbances.

The disturbance must not be better accounted for by a Psychotic Disorder that is not substance induced (Criterion C).

The diagnosis is not made if the psychotic symptoms occur only during the course of a delirium (Criterion D).

This diagnosis should be made instead of a diagnosis of Substance Intoxication or Substance Withdrawal only when the psychotic symptoms are in excess of those usually associated with the intoxication or withdrawal syndrome and when the symptoms are sufficiently severe to warrant independent clinical attention.

4.2.4 Difference between Substance Induced Psychotic Disorders and Other Psychotic Disorders

Table below presents the differences between substance induce and other psychotic disorders.

Substance induced psychotic disorders	Other psychotic disorders
Onset: Following ingesting the substance of abuse	Onset Insidious onset or over a period of time. Has nothing to do with any substance abuse
Course of this disorder is associated with the drug intake. The moment the drug is withdrawn, after the period of withdrawal syndrome, the psychotic episodes also disappear	Course of this disorder continues on and the symptoms reduce or disappear with intake of medications
There must be evidence from the history, physical examination, or laboratory findings of Dependence, Abuse, intoxication, or withdrawal	Physical examination etc do not show any ingestion of drugs. There is no history of substance abuse.

**Schizophrenia and Other
Psychotic Disorders**

Substance Induced Psychotic Disorders arise only in association with intoxication or withdrawal states	Other Psychotic disorders do not have any association with drug or intoxication or withdrawal.
May persist for weeks	These precede the onset of substance use or may occur during times of sustained abstinence.
Once initiated the psychotic symptoms may continue as long as the substance use continues	There is no relationship between psychotic features and use of substances
Age of onset has no importance here	Age of onset is very important as for instance the age of onset for schizophrenia is adolescent years to young adulthood
No specific role of history of psychotic disorder	There is history of psychotic disorder at an earlier age level or in the family
Generally there is non auditory hallucinations	In this there is generally auditory hallucinations
The psychotic symptoms persist so long as the substance abuse continues	Psychotic symptoms persist for a substantially long period of time
Persistence of psychotic symptoms for a substantial period of time (i.e., a month or more) after the end of Substance Intoxication or acute Substance Withdrawal.	There is no connection between substance use or withdrawal symptoms and the psychotic features.
Symptoms of psychotic disorder are limited to the use of substance.	The development of symptoms that are substantially in excess of what would be expected given the type or amount of the substance used or the duration of use.

Other causes of psychotic symptoms must be considered even in a person with Intoxication or Withdrawal, because substance use problems are not uncommon among persons with non substance induced Psychotic Disorders.

Self Assessment Questions

1) Describe in detail the various psychotic disorders.

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2) Define substance induced psychotic disorders.

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3) What are the criteria to diagnose substance induced psychotic disorders?

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4) Describe the essential features of substance induced psychotic disorders.

5) Differentiate between substance induced psychotic disorder and other psychotic disorders.

4.3 SUBTYPES AND SPECIFIERS

One of the following subtypes may be used to indicate the predominant symptom presentation. If both delusions and hallucinations are present, indicate whichever is predominant:

With Delusions: This subtype is used if delusions are the predominant symptom.

With Hallucinations: This subtype is used if hallucinations are the predominant symptom.

The context of the development of the psychotic symptoms may be indicated by using one of the specifiers listed below:

With Onset During Intoxication: This specifier should be used if criteria for intoxication with the substance are met and the symptoms develop during the intoxication syndrome.

With Onset During Withdrawal: This specifier should be used if criteria for withdrawal from the substance are met and the symptoms develop during, or shortly after, a withdrawal syndrome.

A substance induced psychotic disorder that begins during substance use can last as long as the drug is used. A substance induced psychotic disorder that begins during withdrawal may first manifest up to four weeks after an individual stops using the substance.

The speed of onset of psychotic symptoms varies depending on the type of substance. For example, using a lot of cocaine can produce psychotic symptoms within minutes.

On the other hand, psychotic symptoms may result from alcohol use only after days or weeks of intensive use.

The type of psychotic symptoms also tends to vary according to the type of substance.

For instance, auditory hallucinations (specifically, hearing voices), visual hallucinations,

and tactile hallucinations are most common in an alcohol-induced psychotic disorder, whereas persecutory delusions and tactile hallucinations (especially formication) are commonly seen in a cocaine – or amphetamine-induced psychotic disorder.

4.4 DIAGNOSIS

Diagnosis of a substance-induced psychotic disorder must be differentiated from a psychotic disorder due to a general medical condition.

Some medical conditions (such as temporal lobe epilepsy or Huntington's chorea) can produce psychotic symptoms, and, since individuals are likely to be taking medications for these conditions, it can be difficult to determine the cause of the psychotic symptoms.

If the symptoms are determined to be due to the medical condition, then a diagnosis of a psychotic disorder due to a general medical condition is warranted.

Substance-induced psychotic disorder also needs to be distinguished from delirium, dementia, primary psychotic disorders, and substance intoxication and withdrawal. While there are no absolute means of determining substance use as a cause, a good patient history that includes careful assessment of onset and course of symptoms, along with that of substance use, is imperative.

Often, the patient's testimony is unreliable, necessitating the gathering of information from family, friends, coworkers, employment records, medical records, and the like. Differentiating between substance-induced disorder and a psychiatric disorder may be aided by the following:

Time of onset: If symptoms began prior to substance use, it is most likely a psychiatric disorder.

Substance use patterns: If symptoms persist for three months or longer after substance is discontinued, a psychiatric disorder is probable.

Consistency of symptoms: Symptoms more exaggerated than one would expect with a particular substance type and dose most likely amounts to a psychiatric disorder.

Family history: A family history of mental illness may indicate a psychiatric disorder.

Response to substance abuse treatment: Clients with both psychiatric and substance use disorders often have serious difficulty with traditional substance abuse treatment programs and relapse during or shortly after treatment cessation.

Client's stated reason for substance use: Those with a primary psychiatric diagnosis and secondary substance use disorder will often indicate they "medicate symptoms," for example, drink to dispel auditory hallucinations, use stimulants to combat depression, use depressants to reduce anxiety or soothe a manic phase.

While such substance use most often exacerbates the psychotic condition, it does not necessarily mean it is a substance-induced psychotic disorder.

Unfortunately, psychological tests are not always helpful in determining if a psychotic disorder is caused by substance use or is being exacerbated by it. However, evaluations, such as the MMPI-2 and MAC-R scale or the Wechsler Memory Scale—Revised, can be useful in making a differential diagnosis. Also *Neuropsychological assessment* or Neuropsychological testing is also an important tool for examining the effects of toxic substances on brain functioning. Some physicians may use neuropsychological assessments to reveal patients' cognitive and physical impairment after cocaine use.

Neuropsychological testing assesses brain functioning through structured and systematic behavioural observation. Neuropsychological tests are designed to examine a variety of cognitive abilities, including speed of information processing, attention, memory, and language. An example of a task that a physician might ask the patient to complete as part of a neuropsychological examination is to name as many words beginning with a particular letter as the patient can in one minute. Patients who abuse cocaine often have difficulty completing tasks, such as the one described, that require concentration and memory.

4.4.1 Differential Diagnosis of Substance Induced Psychotic Disorder and Medicine Induced Psychotic Disorders

A diagnosis of Substance-Induced Psychotic Disorder should be made instead of a diagnosis of **Substance Intoxication** or **Substance Withdrawal** only when

- 1) The psychotic symptoms are judged to be in excess of those usually associated with the intoxication or withdrawal syndrome.
- 2) When the symptoms are sufficiently severe to warrant independent clinical attention.
- 3) Individuals intoxicated with stimulants, cannabis, the opioid meperidine, or phencyclidine, or those withdrawing from alcohol or sedatives, may experience altered perceptions (scintillating lights, sounds, visual illusions) that they recognise as drug effects.
- 4) If reality testing for these experiences remains intact (i.e., the person recognises that the perception is substance induced and neither believes in nor acts on it), then the diagnosis is not Substance-Induced Psychotic Disorder.
- 5) Instead, **Substance Intoxication or Withdrawal, With Perceptual Disturbances**, is diagnosed (e.g., Cocaine Intoxication, With Perceptual Disturbances).
- 6) “Flashback” hallucinations that can occur long after the use of hallucinogens has stopped are diagnosed as **Hallucinogen Persisting Perception Disorder**.
- 7) Moreover, if substance-induced psychotic symptoms occur exclusively during the course of a delirium, as in some severe forms of Alcohol Withdrawal, the psychotic symptoms are considered to be an associated feature of the delirium and are not diagnosed separately.
- 8) A Substance-Induced Psychotic Disorder is distinguished from a **primary Psychotic Disorder** by the fact that a substance is judged to be etiologically related to the symptoms.
- 9) A Substance-Induced Psychotic Disorder due to a prescribed treatment for a mental or general medical condition must have its onset while the person is receiving the medication (or during withdrawal, if there is a withdrawal syndrome associated with the medication).
- 10) Once the treatment is discontinued, the psychotic symptoms will usually remit within days to several weeks (depending on the half-life of the substance and the presence of a withdrawal syndrome). If symptoms persist beyond 4 weeks, other causes for the psychotic symptoms should be considered.
- 11) Because individuals with general medical conditions often take medications for

those conditions, the clinician must consider the possibility that the psychotic symptoms are caused by the physiological consequences of the general medical condition rather than the medication, in which case Psychotic Disorder Due to a General Medical Condition is diagnosed.

- 12) The history often provides the primary basis for such a judgment. At times, a change in the treatment for the general medical condition (e.g., medication substitution or discontinuation) may be needed to determine empirically for that person whether the medication is the causative agent.
- 13) If the clinician has ascertained that the disturbance is due to both a general medical condition and substance use, both diagnoses (i.e., Psychotic Disorder Due to a General Medical Condition and Substance-Induced Psychotic Disorder) may be given.
- 14) When there is insufficient evidence to determine whether the psychotic symptoms are due to a substance (including a medication) or to a general medical condition or are primary (i.e., not due to either a substance or a general medical condition), Psychotic Disorder Not Otherwise Specified would be indicated.

Specify if:

With Onset During Intoxication: if criteria are met for Intoxication with the substance and the symptoms develop during the intoxication syndrome

With Onset During Withdrawal: if criteria are met for Withdrawal from the substance and the symptoms develop during, or shortly after, a withdrawal syndrome

Self Assessment Questions

- 1) What are the subtypes and specifiers? Discuss.

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- 2) What are the methods used in diagnosing the substance induced psychotic disorders?

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- 3) Differentiate between substance induced and medicine induced psychotic disorders.

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4.5 TREATMENTS

Treatment is determined by the underlying cause and severity of psychotic symptoms. However, treatment of a substance-induced psychotic disorder is often similar to treatment for a primary psychotic disorder such as schizophrenia. Appropriate treatments may include psychiatric hospitalisation and antipsychotic medication.

Treatment is determined by the underlying cause and severity of psychotic symptoms. However, treatment of a substance-induced psychotic disorder is often similar to treatment for a primary psychotic disorder such as schizophrenia. Appropriate treatments may include psychiatric hospitalisation and antipsychotic medication.

4.5.1 Hospitalisation

Hospitalisation or inpatient care is the most restrictive form of treatment for a psychiatric disorder, addictive disorder, or for someone with more than one diagnosis. Whether it is voluntary or involuntary, the patient relinquishes the freedom to move about and, once admitted, becomes subject to the rules and schedule of a treatment environment.

Patients who are likely to require hospitalisation include especially if the patient is delirious, suicidal, homicidal, or gravely disabled. As inpatients, they may require the administration of medications (e.g. haloperidol, risperidone, carbamazepine) to relieve any psychosis related to the chemicals inhaled.

Hospitalisation is necessary in cases where an individual is in imminent danger of harming himself or others or has made a suicide attempt. Crisis stabilization, behaviour modification, supervised substance abuse detoxification, and medication management are compelling reasons to consider hospitalisation. Ideally, hospitalisation is at one end of a comprehensive continuum of services for people needing treatment for behavioural problems. It is generally viewed as a last resort after other less restrictive forms of treatment have failed.

Treatment may vary depending on the drug involved. Hallucinogen and phencyclidine psychosis may not respond well to antipsychotics. A supportive approach is preferred, with reassuring, structured, and protective surroundings. Agitation may be best treated with short-acting benzodiazepines.

4.5.2 Medical Care

The medical care of patients with inhalant-related psychiatric disorders encompasses many areas.

A team of medical professionals must work in unison to ensure that every aspect of the treatment plan is fulfilled.

4.5.3 Counselling

The goals of substance abuse counseling are:

- 1) Achieving and maintaining abstinence from alcohol or other drugs of abuse or, for patients unable or unwilling to work toward total abstinence, reducing the amount and frequency of use and concomitant biopsychosocial sequelae associated with drug use disorders.
- 2) Stabilizing acute psychiatric symptoms.
- 3) Resolving or reducing problems and improving physical, emotional, social, family, interpersonal, occupational, academic, spiritual, financial, and legal functioning.

- 4) Working toward positive lifestyle change.
- 5) Early intervention in the process of relapse to either the addiction or the psychiatric disorder.

Counseling (supportive therapy) should be initiated, along with patient education to explain the dangers of huffing. Evaluate patients for psychiatric comorbidity.

Interventions include the following:

- 1) Motivating patients to seek detoxification or inpatient treatment if symptoms warrant, and sometimes facilitating an involuntary commitment for psychiatric care.
- 2) Educating patients about psychiatric illness, addictive illness, treatment, and the recovery process.
- 3) Supporting patients' efforts at recovery and providing a sense of hope regarding positive change.
- 4) Referring patients for other needed services (case management, medical, social, vocational, economic needs).
- 5) Helping patients increase self-awareness so that information regarding dual disorders can be personalised.
- 6) Helping patients identify problems and areas of change.
- 7) Helping patients develop and improve problem solving ability and develop recovery coping skills.
- 8) Facilitating pharmacotherapy evaluation and compliance. (This requires close collaboration with the team psychiatrist.)

Change in the addictive behaviour may occur as a result of the patient counselor relationship and the team relationship (i.e., counselor, psychiatrist, psychologist, nurse, or other professionals such as case manager or family therapist). A positive therapeutic alliance is seen as critical in helping patients become involved and stay involved in the recovery process. Community support systems, professional treatment groups, and self-help programs also serve as possible agents of positive change. For the more chronically and persistently mentally ill patients, a case manager may also function as an important agent in the change process.

Although patients have to work on a number of intrapersonal and interpersonal issues as part of long term recovery, medications can facilitate this process by attenuating acute symptoms, improving mood, or improving cognitive abilities or impulse control. Thus, medications may eliminate or reduce symptoms as well as help patients become more able to address problems during counseling sessions. A severely depressed patient may be unable to focus on learning cognitive or behavioural interventions until he or she experiences a certain degree of remission from symptoms of depression. A floridly psychotic patient will not be able to focus on abstinence from drugs until the psychotic symptoms are under control.

No controlled studies have been performed to guide the treatment of patients who abuse inhalants and who have inhalant dependence. Additionally, no specific medications indicated by the pharmaceutical industry are available for detoxification from inhalants.

Programs are available that specifically treat inhalant abuse; however, they are rare and difficult to find. Therefore, treatment planning most often is tailored much like that of the

treatment of patients with chemical dependence, in which the first step is to detoxify the patient.

Patients who are addicted to inhalants experience withdrawal symptoms similar to those of any other patient addicted to drugs, including tremors, chills, sweats, cramps, nausea, and hallucinations.

Next, a peer system is established.

Once these 2 tasks are accomplished, assess the patient for physical, cognitive, and neurologic problems. If any problems are noted in these areas, they must be treated immediately. Identify any strengths the patient has and build on these strengths to increase them and to create new additional strengths for the patient. Address any other problems they may have. The goals are to return the patient to the community with a drug-free peer network and to continue or enhance self-support.

Treat any conduct problems noted.

Once the patient is detoxified, evaluate for other psychiatric illnesses using the *DSM-IV-TR*.

The patient should participate in group therapy sessions, 12-step programs/chemical dependency groups, rational-emotive therapy, cognitive behaviour therapy, and family therapy.

Discuss safe sex with the patient, including partner precautions and birth control. In addition, the family should receive education about the disorder, secure substances that could be huffed, and become familiar with local mental health laws regarding commitment policies.

No medications should be used unless a treatable *DSM-IV-TR* diagnosis has been identified.

If the patient has depression independent of the inhalant abuse, treat with the antidepressant of choice.

If the patient abuses alcohol in addition to inhalants, disulfiram (Antabuse) or naltrexone can be used in appropriate settings.

If the patient meets *DSM-IV-TR* criteria for attention-deficit/hyperactivity disorder, a psychostimulant such as pemoline (Cylert) can be used for treatment. The United States Food and Drug Administration (FDA) concluded that the overall risk of liver toxicity from pemoline outweighs the benefits. In May 2005, Abbott chose to stop sales and marketing of their brand of pemoline (Cylert) in the United States. In October 2005, all companies that produced generic versions of pemoline also agreed to stop sales and marketing of pemoline.

If the patient is psychotic as a result of the inhalant abuse (inhalant-induced psychosis), the physician may use an appropriate antipsychotic such as haloperidol (Haldol) or risperidone (Risperdal), with or without a benzodiazepine. This is the physician's choice.

If the patient has an inhalant-induced mood disorder, detoxification is recommended, without the use of any medications unless the depression persists for longer than 2-4 weeks after withdrawal.

4.5.4 Detoxification

Detoxification is also recommended for patients who are experiencing inhalant-induced

anxiety; however, the use of sedatives or antianxiety medications is contraindicated because inhalant intoxication can worsen if the patient uses again.

If the patient cannot maintain sobriety, the physician should consider residential treatment options, which can last anywhere from 3-12 months.

Most persons who abuse inhalants receive most of their medical care in local emergency departments after they have either passed out or become psychotic from chemical inhalation. In the emergency department, they receive supportive care, social interventions, and appropriate medical care.

4.5.5 Surgical Care

Patients may need liver or kidney transplantation.

Consultations

Chemical dependence counselor

Attorney, if legal problems develop

Social worker

Family therapist

Peer-group therapist

Dietitian (possibly)

Diet

Consultation with a dietitian may be helpful if patients have poor nutrition (eg, liver problems, low protein).

If no additional medical problems are present, patients can eat a regular diet.

Activity

Maintain sobriety.

Patients who are not a danger to themselves or others, are not gravely disabled, and are medically stable can maintain routine activities.

4.5.6 Medications

If psychosis or delirium is present, use an antipsychotic such as risperidone or haloperidol and/or an anticonvulsant such as carbamazepine. Avoid benzodiazepines because they may worsen respiratory depression.

Antipsychotics

Reduce psychosis and aggressive behaviour. All antipsychotics may be equally efficacious, but their adverse effect profiles are different. The atypical antipsychotics such as risperidone, olanzapine, quetiapine, and ziprasidone have an advantage in the adverse effect profile, especially with their lower risk to cause adverse extrapyramidal effects and tardive dyskinesia.

4.5.7 Prognosis

Psychotic symptoms induced by substance intoxication usually subside once the substance is eliminated. Symptoms persist depending on the half-life of the substances

(i.e., how long it takes the before the substance is no longer present in an individual's system). Symptoms, therefore, can persist for hours, days, or weeks after a substance is last used.

4.5.8 Prevention

There is very little documented regarding prevention of substance-induced psychotic disorder. However, abstaining from drugs and alcohol or using these substances only in moderation would clearly reduce the risk of developing this disorder. In addition, taking medication under the supervision of an appropriately trained physician should reduce the likelihood of a medication induced psychotic disorder. Finally, reducing one's exposure to toxins would reduce the risk of toxin-induced psychotic disorder.

Self Assessment Questions

1) Discuss the various treatment approaches to substance induced psychotic disorder.

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2) Discuss hospitalisation and medical care as important methods of treatment of this disorder.

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3) What is the prognosis of this disorder?

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4) How do we prevent this substance induced psychotic disorder from manifesting?

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4.6 LET US SUM UP

Substance-Induced Psychotic Disorders may at times not resolve promptly when the offending agent is removed. Agents such as amphetamines, phencyclidine, and cocaine have been reported to evoke temporary psychotic states that can sometimes persist for weeks or longer despite removal of the agent and treatment with neuroleptic medication.

These may be initially difficult to distinguish from non-substance-induced Psychotic Disorders.

The essential features of Substance-Induced Psychotic Disorder are prominent hallucinations or delusions that are judged to be due to the direct physiological effects of a substance (i.e., a drug of abuse, a medication, or toxin exposure). Hallucinations that the individual realises are substance induced are not included here and instead would be diagnosed as Substance Intoxication or Substance Withdrawal with the accompanying specifier.

With Perceptual Disturbances. The disturbance must not be better accounted for by a Psychotic Disorder that is not substance induced. The diagnosis is not made if the psychotic symptoms occur only during the course of a delirium. This diagnosis should be made instead of a diagnosis of Substance Intoxication or Substance Withdrawal only when the psychotic symptoms are in excess of those usually associated with the intoxication or withdrawal syndrome and when the symptoms are sufficiently severe to warrant independent clinical attention.

A Substance-Induced Psychotic Disorder is distinguished from a primary Psychotic Disorder by considering the onset, course, and other factors. For drugs of abuse, there must be evidence from the history, physical examination, or laboratory findings of Dependence, Abuse, intoxication, or withdrawal.

Substance Induced Psychotic Disorders arise only in association with intoxication or withdrawal states but can persist for weeks, whereas primary Psychotic Disorders may precede the onset of substance use or may occur during times of sustained abstinence. Once initiated, the psychotic symptoms may continue as long as the substance use continues.

Another consideration is the presence of features that are atypical of a primary Psychotic Disorder (e.g., atypical age at onset or course). For example, the appearance of delusions de novo in a person over age 35 years without a known history of a primary Psychotic Disorder should alert the clinician to the possibility of a Substance-Induced Psychotic Disorder. Even a prior history of a primary Psychotic Disorder does not rule out the possibility of a Substance-Induced Psychotic Disorder.

It has been suggested that 9 out of 10 nonauditory hallucinations are the product of a Substance-Induced Psychotic Disorder or a Psychotic Disorder Due to a General Medical Condition. In contrast, factors that suggest that the psychotic symptoms are better accounted for by a primary Psychotic Disorder include persistence of psychotic symptoms for a substantial period of time (i.e., a month or more) after the end of Substance Intoxication or acute Substance Withdrawal; the development of symptoms that are substantially in excess of what would be expected given the type or amount of the substance used or the duration of use; or a history of prior recurrent primary Psychotic Disorders.

Other causes of psychotic symptoms must be considered even in a person with Intoxication or Withdrawal, because substance use problems are not uncommon among persons with (presumably) non-substance induced Psychotic Disorders. Psychotic symptoms induced by substance intoxication usually subside once the substance is eliminated. Symptoms persist depending on the half-life of the substances (i.e., how long it takes before the substance is no longer present in an individual's system). Symptoms, therefore, can persist for hours, days, or weeks after a substance is last used. There is very little documented regarding prevention of substance-induced psychotic disorder. However, abstaining from drugs and alcohol or using these substances

only in moderation would clearly reduce the risk of developing this disorder. In addition, taking medication under the supervision of an appropriately trained physician should reduce the likelihood of a medication-induced psychotic disorder. Finally, reducing one's exposure to toxins would reduce the risk of toxin-induced psychotic disorder.

4.7 UNIT END QUESTIONS

- 1) Define and describe substance induced psychotic disorders.
- 2) Discuss how substance induced disorder can be caused?
- 3) Define subtypes of substance induced psychotic disorder?
- 4) What are the causes of these disorders?
- 5) Discuss critically the various treatments available for this disorder.

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