1- Answer question

Etiology of Psychiatric Disorders

Etiology or causation of psychiatric disorders is a complex issue. This complexity has several aspects:

1- One aspect of the complexity is the fact that psychiatric disorders are caused by the interaction of a multitude of biological, psychological and social factors. Factors from any of these domains alone may not be sufficient to produce a disorder unless they interact with factors from the other domains.

2 - Other aspects of the complexity arise from the separation of time between the cause and effect and from the presence of several effects caused by a single factor, or the reverse, the presence of several causes that result in one effect.

The Bio-Psycho-Social Model of Etiology

According to this model psychiatric disorders arise from the combined effect or interaction of biological, psychological and social factors. Biological, psychological and social factors create a vulnerability (i.e. readiness) to develop certain psychiatric disorders. Negative or traumatic psychological experiences operating during childhood development add to this vulnerability. Later in life the impact of significant stressors, particularly psychosocial stressors, activates pathological processes that lead to the emergence of disorder in a manifest from.

1- Biological Factors

A- Genetic Factors

Genetic factors play a role in most psychiatric disorders. This has been established through different types of genetic studies including family risk studies, twin studies, adoption studies as well as direct studies on genes (molecular genetics). Though our knowledge in this area are still limited certain facts have been indicated:

i- For most psychiatric disorders the mode of inheritance is polygenic (i.e., combined action of multiple genes).

ii- The degree of genetic contribution to disorder differs in relation to different psychiatric disorders, e.g., the role of genetic aspects in schizophrenia is higher than their role in relation to anxiety disorders.

iii- In most instances genetic factors may not lead to manifest psychiatric disorders unless they interact with unfavorable environmental developmental factors. These factors may be biological (intrauterine, perinatal or later in life) or psychosocial (developmental traumatic experiences and stressors).

B- Neurochemical and neuroendocrine factors

Most psychiatric disorders are associated with dysregulation in different brain neurotransmitter systems, e.g. Schizophrenia is associated with identifiable dysfunctions in dopamine, serotonin and possibly other neurotransmitter systems.

On the other hand, some psychiatric disorders may be associated with certain neuroendocrine dysfunctions, e.g.. Depressive Disorders are usually associated with hypothalamo-pituitary-adrenal axis over activity.

C- Neurophysiological and neuropathological factors

Recent advances in neuroimaging (e.g. C.T, MRI, and PET) and other brain investigative techniques have made it possible to study different functional and structural (anatomical) changes associated with psychiatric disorders.

Certain neurophysiological (i.e. functional) changes such as changes in cerebral blood flow, brain electrical and neuronal circuit activity may characterize different psychiatric disorders. Similarly, neuropathological changes in certain brain anatomical structures seem to be associated with some psychiatric disorders.

N.B. Neurochemical, neuroendocrine, neuropathological and neurophysiological findings are believed to represent the biological

mechanisms mediating the disease process i.e. they are "***Intermediate Causes***' rather than being the original causes of disorder.

2- Psychological Factors

Vulnerability to psychiatric disorder is strongly related to negative or adverse psychological influences operating since early stages of child development. They include:

a- Traumatic psychological experiences such as separation or loss of parents, physical or sexual abuse, and parental indifference or neglect.

b- Pathological patterns of relationships with significant people particularly the parents.

c- Defective development of personality or self due to defective satisfaction of essential psychological needs by caregivers.

3- Social Factors

Negative or adverse psychosocial circumstances contribute to predisposition to or precipitation of psychiatric disorder. They include:

a- Stressful life events, e.g. death of loved people, financial loss or loss of job, divorce, serious health problems, etc....

b- Stresses of social milieu, e.g. stresses related to social class, culture or social change in the society, etc....

c- The nature of the society (industrial versus agricultural, rural versus urban), with the effect of industrialization and modernization, can add to the causes of mental illness.

Predisposing, Precipitating and Perpetuating Factors

From a different perspective etiological factors of psychiatric disorders can be classified in terms of predisposing, precipitating and perpetuating (maintaining) factors.

1- Predisposing Factors:

These are factors which operate from early life and determine the person's vulnerability to the disorder. They include genetic factors,

intrauterine factors as well as physical, psychological and social factors influencing the person throughout his development.

Constitutional factors are the physical and mental make up as that is shaped by the combined effects of genetic characters, and early developmental influences (early learned experiences and early interpersonal relationships). They form together the type of the individual's personality. This latter is important in explaining the particular way of reaction to the precipitating factors.

2- Precipitating Factors

These are events that occur shortly before the onset of a disorder and appear to have induced it. They may be physical (e.g. trauma, infection, intoxication, etc...) psychological (e.g. conflicts, frustration, deprivation or bereavement) or social factors. They require a predisposed individual to exert their effect. They do not influence the pattern of the illness or its intensity.

3. Perpetuating (Maintaining) Factors

These are factors that prolong the course of illness and counteract therapeutic efforts. They may be biological or psychosocial in nature.

Answer question 2

Panic Disorder

Clinical Features

Recurrent spontaneous or unexpected panic attacks, i.e., acute episodes of intense anxiety. It may be associated with agoraphobia (about $^{1}/_{3}$ of patients).

Diagnosis of panic disorder is made if the attacks arc repeated (4 attacks in a month), or if the patient becomes concerned about having additional attacks (anticipatory anxiety). This causes gross impairment of functioning. The patient may fear or worry about the implications of the attacks (e.g., developing a heart attack, going crazy, or lose control over oneself).

The Panic Attack:

A panic attack is a discrete period of intense anxiety not related to any particular situation or circumstances. It develops abruptly, reaches the peak over 10 minutes, and lasts for a limited time (5-30 minutes).

During the attack there is a mixture of physical and psychological symptoms. They develop acutely and include:

1- Physical anxiety symptoms:

* Palpitation or accelerated heart rate
* Chest pain or discomfort
* Shortness of breathing or smothering sensation
* Sense of chocking
* Sweating
* Chills or hot flushes
* Trembling or shaking
* Feeling dizzy, light-headed, unsteady or about to faint
* Nausea, abdominal distress, abdominal colics and diarrhea
* Parasthesia (numbness or tingling)

2. Psychological symptoms:

* Fear of dying.

* Fear of loss of control or going crazy.
* Depersonalization and/or derealization

N.B. Due to the abruptness of the attacks and their typical physical symptoms, panic attacks are usually mistaken by the patient (and physicians) for acute cardiac conditions (ischemic attack or arrhythmia). This leads to repeated admissions to ICU and costly investigations.

Answer question 3

Somatoform Disorders

Somatoform disorders have in common the presence of one or more physical complaints for which an adequate physical explanation cannot he found. There is usually an absence of findings or only minor findings on physical or laboratory examination. The complaints of the patient may seem greatly exaggerated in comparison with the minor physical or laboratory abnormalities that are identified

Somatization Disorder

Somatization disorder is a chronic syndrome of **multiple somatic symptoms** that cannot be explained medically and is associated with psychosocial distress and medical help-seeking. It requires a history of several years duration, beginning before the age of 30

Clinical Picture

Patients with somatization disorder have a multitude of somatic complaints. and a long complicated medical history, it begins before the age of 30 and persists for several years.

There are several symptoms from the list below. The symptoms have no organic pathology of pathophysiological mechanism. When there is related organic pathology, the complaint or resulting social or occupational impairment is grossly in excess of what would be expected from the physical findings.

Symptom list:

1. **Gastrointestinal symptoms:** Vomiting, abdominal pain, nausea, bloating (gassy distension), diarrhea, and intolerance to several different types of food
2. **Pain symptoms:** Pain in extremities, back pain, joint pain, and pain during urination
3. **Cardiopulmonary symptoms:** Shortness of breath without exertion, palpitations, chest pain and dizziness

4. **Conversion or pseudo-neurological symptoms:** Amnesia, difficulty swallowing, loss of voice, deafness, double vision. blurred vision, blindness, fainting or loss of consciousness, seizure or convulsion, difficulty walking, paralysis or muscle weakness and urinary retention or difficulty urinating
5. **Sexual symptoms:** burning sensation in sexual organs or rectum, sexual indifference, pain during intercourse, impotence and painful menstruation

Conversion Disorder

Conversion disorder is a disorder involving one or more **neurological sensory or motor symptoms** (e.g., paralysis, blindness or parasthesia) that cannot be explained by a known medical or neurological disorder.

It is associated with psychological stresses (conflict, frustration or loss) with the onset or exacerbation of the symptoms.

The symptoms are unconsciously produced to alleviate the anxiety caused by the stress and to gain sympathy, attention or relief from responsibility.

The psychological conflict is in the patient's unconscious mind, and the physical symptom is not under voluntary control.

The patient is abnormally calm despite the seriousness of symptoms (Belle Indifference).

It was previously called Conversion Hysteria.

Hypochondriasis

Hypochondriasis is an **excessive concern about disease** and preoccupation with one's health. Hypochondriasis is an unrealistic interpretation of physical symptoms and sensations; leading to preoccupation with the fear or belief that one has a serious disease. This fear or conviction of disease is disabling and persists despite appropriate medical reassurance.

Answer question 4

Bipolar Disorders

Definition

Bipolar disorders are a group of mood disorders characterized by the recurrence of either manic or hypomanic episodes, with or without history of a major depressive episode. There may be a mixed episode, i.e., the co-occurrence of manic and major depressive symptoms in the same episode.

Bipolar Disorders occupy the 9th position in the list of "causes of disability" according to the WHO report in 2001.

A manic episode consists of a distinct period of persistently elevated, expansive, or irritable mood. During the mood disturbance, the patient has also grandiose thinking or inflated self-esteem, decreased need for sleep, volubility, flight of ideas, distractibility, and increase in goal-directed activities. The patient is hyperactive. Excitement and aggressive behavior may occur. The specific manner of excessive involvement in pleasurable activities is one of recklessness and thereby may lead to terrible consequences. There may be psychotic features (delusions or hallucinations).

A hypomanic episode is similar to a manic episode, but the symptoms are not severe enough to cause marked deterioration in either social or occupational functioning. Hospitalization is not required, and there are no psychotic features.

Clinical Presentations

1. Manic or hypomanic episode: depressive symptoms transiently precede the appearance of florid manic or hypomanic symptoms.
2. Depressive episode with past history of a manic or hypomanic episode
3. Mixed episode

Answer question ٥

Behavioral Therapies

Behavioral therapy is based on the theory that symptoms are persistent inaladaptive behaviors acquired by conditioning or learning. Therapy consists of "deconditioning" or "unlearning" of such behavioral habits and "relearning" of new adaptive behaviors.

e.g., phobia represents a conditioned habit of reacting with anxiety to a non-dangerous stimulus. Therapy consists of breaking down this conditioning.

Techniques

1- Systematic desensitization

Graduated exposure in imagination to anxiety provoking situation while in a state of relaxation

2- Graded exposure

Similar to systematic desensitization but performed in real-life situations without relaxation

3- Flooding

The patient confronts the undesired situation directly without graduation or relaxation and remains in the situation until he becomes calm

N.B. The above techniques are useful in phobic, and obsessive compulsive disorders and some sexual disorders.

4- Aversive conditioning

Pairing of a maladaptive behavior with a noxious stimulus (punishment) leads to inhibition and extinction of that behavior.

e.g.,: In treating alcoholism, patients are given a drug (Disulfiram) which causes severe nausea and vomiting if the patient drinks alcohol.

5- Positive reinforcement (reward)

- Pairing of a positive desired behavior with a reward (e.g.. food, praise, avoidance of pain) leads to reinforcing the behavior and establishing it as a habit.
- Helps well in rehabilitation (i.e., improving self-care, social behavioral, etc...) or chronic patients (e.g.. schizophrenia, autistic disorder, M.R..).

6- Participant modeling

- Based on observational learning or learning by imitation.
- e.g., a child fearful of dogs can overcome his fears by watching and imitating other children playing with a dog.