<table>
<thead>
<tr>
<th>Block 4</th>
<th>IDENTIFICATION AND ASSESSMENT OF MENTAL DISORDERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNIT 1</strong></td>
<td>Techniques of Interviewing and Case History Taking 5</td>
</tr>
<tr>
<td><strong>UNIT 2</strong></td>
<td>Steps in Mental Health (Status) Assessment 21</td>
</tr>
<tr>
<td><strong>UNIT 3</strong></td>
<td>Psychological Assessment 33</td>
</tr>
<tr>
<td><strong>UNIT 4</strong></td>
<td>Role of Physical Investigation and Assessment in Mental Disorder 47</td>
</tr>
</tbody>
</table>
In Block 4, Identification and Assessment of Mental Disorder, we will explore another dimension of mental disorder i.e., its identification and assessment. In the previous Block, we discussed the clinical manifestations, course and outcome of mental disorders. In this Block, we take a step further to discuss the various techniques, steps involved and the role of tests in assessment.

Unit 1, Techniques of Interviewing and Case History Taking, brings out the general principles and elements of history taking. It also discusses the different techniques of history taking and interviewing difficult patients like deceptive patients, suicidal patients, violent and hostile patients.

Unit 2, Steps in Mental Health (Status) Assessment explores the various important components to be considered for Mental Status Examination. It also delves into how to formulate a case and special methods to assess mental health.

Unit 3, Psychological Assessment sheds light on the various types of psychological tests, like neuro-cognitive tests, tests to assess personality and psychopathology. It also discusses psychological assessment of children. In this Unit, we will also study the ethical aspects of psychological testing.

In Unit 4, Role of Physical Investigation and Assessment in Mental Disorder, we will understand the significance of physical investigations in mentally-ill persons. A number of routine tests like health screen and special tests like Thyroid Function Tests, Blood Test, CT, MRI and so forth will be discussed.
INTRODUCTION

George Engel stated, “Virtually indispensable for the physician–patient interaction, the well-constructed interview truly may be regarded as the most powerful, the most sensitive and the most versatile instrument available to the physician”. Truly, the psychiatric interview is the most essential and also the most important aspect in the evaluation and care of persons with mental illness. All mental health professionals, regardless of theoretical orientation, must struggle to learn and master this skill of listening and constructing both, the patient’s symptomatology and his/her life history. While the biological or phenomenologically oriented professional try to identify patient’s symptomatology; cognitive–behaviourally oriented professional look for distortions, assumptions or inferences; psycho-dynamically oriented professional look for hints at unconscious conflicts; behaviourists search for covert patterns of anxiety and stimulus associations. Therapeutic listening requires sensitivity to the storyteller and an ability to integrate a patient orientation with a disease focus. Listening to someone requires time, concentration, imagination, a sense of humor, and an attitude that places the patient as the central focus of his or her own life story. In this Unit, we discuss the various aspects of history taking that transforms the art of listening into an admixture of art and science.
1.1 LEARNING OBJECTIVES

After studying this Unit, you will be able to:

- Recognize the role of history taking in the management of patient’s with mental health problems/disorders;
- Become aware of the general principles of history taking;
- Understand the various elements of history taking;
- Know and incorporate the different techniques of history taking; and
- Learn how to interview a difficult patient.

1.2 AIM OF HISTORY TAKING

The major purpose of the initial interview is to obtain information that will help to establish a criteria-based diagnosis. This diagnosis is useful not only in identifying and labeling the patient’s problems but also in predicting the course of the illness, the prognosis and the ensuing treatment decisions. A well-conducted psychiatric interview results in the understanding of the bio-psychosocial aspects of the disorder and provides the information necessary to develop an individualized treatment plan.

Additionally, the initial interviews and interactions shape the nature of the patient–physician relationship, which can have a profound impact on the outcome of management.

1.3 SETTING OF THE INTERVIEW

The setting in which the psychiatric interview takes place include psychiatric inpatient units, medical/surgical inpatient units, emergency rooms, outpatient offices, etc. For having a proper interview, the atmosphere in which interview is held is of paramount importance. The interview room should be relatively sound proof. The furnishings and the decor should be pleasant and not distracting. It is suggested that the interviewer’s chair and the patient’s chair be of relatively equal height so that the interviewer does not tower over the patient (or vice versa) and the two should be seated approximately 4 to 6 feet apart. The mental health professional should not be seated behind a desk. The therapist should dress professionally and be well groomed. Distractions should be kept to a minimum. Unless there is an urgent matter, there should be no telephone or beeper interruptions during the interview. The patient should feel that the time has been set aside just for him or her and that for this designated time he is the exclusive focus of the mental health professionals attention.

1.4 DURATION OF THE INTERVIEW

The length of time for the interview and its focus vary, depending on the setting, the specific purpose of interview, and other factors (including availability of professional services). For an initial interview, 45 to 90 minutes is generally required. Despite this, more than one session may be necessary to complete an evaluation. For medically ill patients or in acutely disturbed or violent patients, the time duration of one sitting may be 20 to 30 minutes or less. In these situations, a number of brief sessions may be necessary. The clinician must accept the reality that the history obtained is never complete or fully accurate. An interview is continuous process and some aspects of the evaluation are ongoing, as the patient learns to trust the therapist, he/she will possibly reveal more information that will guide further exploration and treatment.
Nevertheless, there are basic principles and techniques that are important for all psychiatric interviews and these will be discussed in the next section. There are special issues in the evaluation of children that will not be addressed. This section focuses on the psychiatric interview of adult patients only.

### Check Your Progress 1

**Note:**

i) Read the following questions carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) What are the chief aims of history taking?

2) How much time should be allotted to history taking?

3) What are the important characteristics of place when the interview is being held?

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### 1.5 GENERAL PRINCIPLES OF INTERVIEWING

#### Consent for the Interview

Prior to the interview, the professionals should introduce her/him self and, depending on the circumstances, may need to identify why they are speaking with the patient. Unless implicit (the patient coming to the office), consent to proceed with the interview should be obtained and the nature of the interaction and the approximate amount of time for the interview should be stated. A crucial issue is whether the patient is, directly or indirectly, seeking the evaluation on a voluntary basis or has been brought involuntarily for the assessment. This should be established before the interview begins, as this information will guide the interviewer especially in the early stages of the interview process.

#### Privacy and Confidentiality

Confidentiality is the most important component of the patient–therapist relationship. The interviewer should make every attempt to ensure that the content of the interview cannot be overheard by others. Sometimes, in a hospital unit or other institutional setting,
Identification and Assessment of Mental Disorders

this may be difficult. If the patient is sharing a room with others, an attempt should be made to use a different room for the interview. If this is not feasible, the interviewer may need to avoid certain topics or indicate that these issues can be discussed later when privacy can be assured. Generally, at the beginning, the interviewer should indicate that the content of the session(s) will remain confidential except for what needs to be shared with the referring physician or treatment team. Some evaluations, including forensic and disability evaluations, are less confidential and what is discussed may be shared with others. In those cases, the interviewer should be explicit in stating that the session is not confidential and identify who will receive a report of the evaluation. This information should be carefully and fully documented in the patient’s record.

A special issue concerning confidentiality is when the patient indicates that he intends to harm another person. When the evaluation suggests that this might indeed happen, the mental health professional has a legal obligation to warn the potential victim and must inform the appropriate authorities depending on the law of the state (the law concerning notification of potential victim varies from place to place).

Often members of the patient’s family, including spouse, adult children, or parents come with the patient to the first session or are present in the hospital or other institutional setting when the mental health professional first sees the patient. If a family member wishes to talk to the mental health professional, it is generally preferable to meet with the family member(s) and the patient together at the conclusion of the session and after the patient’s consent has been obtained. As a rule, except in an emergency, consent should be obtained from the patient before the mental health professional speaks to the relative. While interviewing the relatives, the mental health professional should not bring up material that the patient has shared but listen to the input from the family member.

In educational and occasionally forensic settings, there may be occasions when the session is recorded. The patient must be fully informed about the recording and how the recording will be used. Occasionally in educational settings, one-way mirrors may be used as a tool to allow trainees to benefit from the observation of an interview. The patient should be informed of the use of the one-way mirror and the category of the observers and be reassured that the observers are also bound by the rules of confidentiality. These devices will have an impact on the interview that the mental health professional should be open to discussing as the session unfolds. Issues concerning confidentiality are crucial in the evaluation/treatment process and may need to be discussed on multiple occasions.

Respect and Consideration

As should happen in all clinical settings, the patient must be treated with respect, and the interviewer should be considerate of the circumstances of the patient’s condition. The patient is often may be experiencing considerable pain or other distress and frequently have the feeling of vulnerability and uncertainty of what may happen. Because of the stigma of mental illness and misconceptions about mental health disorders, the patient may not be comfortable about seeing a mental health professional. The professional should be aware of these issues and attempt to decrease the distress.

Rapport/Empathy

Respect for and consideration of the patient will contribute to the development of rapport. In the clinical setting, rapport can be defined as the harmonious responsiveness of the physician to the patient and the patient to the physician. It is important that the patient increasingly feels that the evaluation is a joint effort and that the professional is truly interested in his story. Empathic interventions (“that must have been very hard for you”)
or even a nonverbal response (with appropriate facial gestures) further increase the rapport. Empathy is understanding what the patient is thinking and feeling and occurs when the professional is able to put oneself in the patient’s place while at the same time maintaining objectivity. Head nodding, putting down one’s pen, leaning towards the patient, or a brief comment, “I see,” can accomplish this objective and simultaneously indicate that this is important material. In fact, the large majority of empathic responses in an interview are nonverbal. While empathy is essential, the professional should not forget to retain his/her objectivity. Maintaining objectivity is crucial in a therapeutic relationship and differentiates empathy from identification. With identification, the professional not only understands the emotion but also experiences it to the extent that he or she loses the ability to be objective. This is especially important in those patients who as part of their illness already have significant boundary problems (e.g., individuals with borderline personality disorder).

**Patient–Physician Relationship**

The patient–physician relationship is the core of the practice of medicine. While the relationship between any one patient and physician will vary depending on each of their personalities and past experiences as well as the setting and purpose of the encounter, there are general principles that, when followed, help to ensure that the relationship established is helpful. The patient comes to the interview seeking help. This desire for help motivates the patient to share information and feelings that are upsetting and often private. The patient is willing, to varying degrees, to do so because of a belief that the professional has the expertise, by virtue of training and experience, to be of help. The sharing is reinforced by a nonjudgmental attitude and behaviour of the physician. Being able to share thoughts and feelings with a nonjudgmental listener is generally a positive experience. Carl Rogers’ unconditional positive regard epitomizes the nonjudgmental response of the clinician.

There are two additional essential ingredients in a helpful patient–physician relationship. One is the demonstration by the physician that he or she understands what the patient is stating and emoting. The other essential ingredient in a helpful patient–physician relationship is the recognition by the patient that the physician cares. The patient–physician relationship is reinforced by the genuineness of the physician.

**Patient-Centered**

A psychiatric interview should be patient-centered. That is, the focus should be on understanding the patient and his/her life story. The patient’s early life experiences, family, education, occupation(s), religious beliefs and practices, hobbies, relationships, and losses are some of the areas that, in concert with genetic and biological variables, contribute to the development of the personality. An appreciation of these experiences and their impact on the person is necessary in forming an understanding of the patient. It is especially important that the resulting treatment plan be based on the patient’s goals and not on the professional’s goals. Numerous studies have demonstrated that often the patient’s goals for treatment (e.g., continuing education) are not the same as the professional’s (e.g., decrease in psychotic symptoms). Traditionally, medicine has focused on illness and deficits rather than strengths and assets. A patient-centered approach focuses on strengths and assets as well as deficits.

**Safety and Comfort**

Both the patient and the interviewer must feel physically safe. On occasions, especially in hospital or emergency room settings, this may require other staff being present or the door to the room where the interview is conducted left ajar. In emergency room settings,
Identification and Assessment of Mental Disorders

it is generally advisable for the interviewer to have a clear, obstacle free exit path. Patients, especially if psychotic or confused, may feel threatened and need to be reassured that they are safe and the staff will do everything possible to ensure their safety. The interview may need to be shortened or quickly terminated if the patient becomes more agitated and threatening. Once issues of safety have been assessed (and for many outpatients this may be accomplished within a few seconds), the interviewer should inquire about the patient’s comfort and continue to be alert to the patient’s comfort throughout the interview.

Check Your Progress 2

Note:  
  i) Read the following question carefully and answer in the space provided below.
   
  ii) Check your answer with that provided at the end of this unit.

1) What are the various principles of history taking?
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1.6 ELEMENTS OF HISTORY TAKING AND RECORDING

The two overarching elements of the psychiatric interview are the patient history and the mental status examination (detailed in next Unit). The patient history is based on the subjective report of the patient and in some cases, the report of additional sources, including other health care providers, family members and other caregivers. Chief components of the history should include:

Identifying Data

This section is brief, of one or two sentences, and typically includes the patient’s name, age, gender, educational, occupational and marital status (or significant other relationship), race or ethnicity, socio-economic status and area of residence. Often the referral source is also included. Having a good understanding of these variables can at times influence the treatment decisions. For example, which antidepressant to prescribe to a poor patient, which medication must not be prescribed to a young woman, etc.

Source and Reliability

It is important to clarify where the information has come from, especially if others have provided information and/or records reviewed, and the interviewer’s assessment of how reliable the data is.

Chief Complaint

This should be the patient’s complaint, ideally in their own words. Examples include, “I’m sad,” or, “Neighbours are trying to harm me”.

History of Present Illness

The present illness is a description of the evolution of the symptoms of the current
episode. In addition, the account should also include any other changes that have occurred during this same time period in the patient’s interests, interpersonal relationships, behaviours, personal habits, physical health, biofunctions and the extent of socio-occupational dysfunction. The chronology of patient’s symptoms must be maintained. The presence or absence of stressors should be established, and these may include situations at home, work, school, legal issues, medical comorbidities, and interpersonal difficulties. Also important are factors that alleviate or exacerbate symptoms such as medications, support, coping skills, or time of day. The essential questions to be answered in the history of the present illness include what (symptoms), how much (severity), how long, and associated factors. It is also important to identify why the patient is seeking help now, and also what were the ‘precipitating’ and ‘maintaining’ factors. If any treatment has been received for the current episode, it should be defined in terms of what was done (e.g., psychotherapy or medication), and the specifics of the modality used (e.g., doses of medication), adequacy of the treatment and the effect of these interventions. Often it can be helpful to include a psychiatric review of systems in conjunction with the history of the present illness to help rule in or out other psychiatric diagnoses with pertinent positive and negative history. This may help to identify whether there are comorbid disorders or disorders that are actually more bothersome to the patient but are not initially identified for a variety of reasons.

It is also advisable to record a negative history of what all symptoms were not present during the course of the present illness, as this is often useful in differential diagnosis.

**Past Psychiatric History**

In the past psychiatric history, the clinician should obtain information about all psychiatric illnesses and their course over the patient’s lifetime, including symptoms and treatment. Because comorbidity is the rule rather than the exception, in addition to prior episodes of the same illness (e.g., past episodes of depression in an individual who has a major depressive disorder) the professionals should also be alert for the signs and symptoms of other psychiatric disorders. Description of past symptoms should include when they occurred, how long they lasted, and the frequency and severity of episodes.

Past treatment should also be reviewed in detail. These include outpatient treatment such as psychotherapy (individual, group, couple, or family), inpatient treatment, including voluntary or involuntary and what precipitated the need for the higher level of care, support groups, or other forms of treatment such as vocational training. Medications and other modalities such as electroconvulsive therapy or alternative treatments should be carefully reviewed. One should explore what was tried, how long and at what doses these were used (to establish adequacy of the trials), and why these were stopped. Important questions must include what was the response to the medication/modality and whether there were any side effects. It is also helpful to establish whether there was reasonable compliance with the recommended treatment.

Special consideration should be given to establishing a lethality history that is important in the assessment of current risk. Past suicidal ideation, intent, plan, and attempts should be reviewed including the nature of attempts, perceived lethality of the attempts or other death preparations. Because many patients will withhold specific information about recent suicidal behaviours or suicidal ideation, several specific behavioural questions may be used to determine how close the patient was to a lethal attempt. Violence and homicidal history should include any violent actions or intent. History of nonsuicidal self-injurious behaviour should also be recorded.
Identification and Assessment of Mental Disorders

Past Medical History

The past medical history includes an account of major medical and surgical illnesses and conditions as well as treatments, both past and present. The patient’s reaction to these illnesses and coping skills employed are important to understand. The past medical history is an important consideration when determining potential causes of mental illness as well as comorbid or confounding factors and may dictate potential treatment options or limitations. Medical illnesses can precipitate a psychiatric disorder (e.g., depression in an individual recently diagnosed with HIV), imitate a psychiatric disorder (hyperthyroidism resembling an anxiety disorder), be precipitated by a psychiatric disorder or its treatment (metabolic syndrome in a patient on a second-generation antipsychotic medication), or influence the choice of treatment of a psychiatric disorder (hepatic dysfunction disorder and the use of disulfiram). It is important to pay special attention to neurological issues including seizures, head injury and pain disorder. Non-psychotropic medications, over-the-counter medications, sleep aids, herbal, and alternative medications should also be reviewed. These can all potentially have psychiatric implications including side effects or producing symptoms as well as potential medication interactions.

Family History

Because many psychiatric illnesses are familial, a careful review of family history is an essential part of the psychiatric assessment. Furthermore, an accurate family history helps not only in defining a patient’s potential risk factors for specific illnesses but also the formative psychosocial background of the patient. Psychiatric diagnoses, medications, hospitalizations, substance use disorders and lethality history should all be covered. The importance of these issues is highlighted, for example, by the evidence that, at times, there appears to be a familial response to medications and a family history of suicide is a significant risk factor for suicidal behaviours in the patient. Proper understanding of medical illnesses present in family members may also be important in both the diagnosis and the treatment of the patient. Family traditions, beliefs, and expectations may also play a significant role in the development, expression, or course of the illness. Also the family history is important in identifying potential support as well as stresses for the patient.

Personal History

The personal history reviews the stages of the patient’s life. It is an important tool in determining the context of psychiatric symptoms and illnesses and may, in fact, identify some of the major factors in the evolution of the disorder. Frequently, current psychosocial stressors will be revealed in the course of obtaining a social history. It can often be helpful to review the social history chronologically to ensure all information is covered.

Any available information concerning prenatal or birth history and developmental milestones should be noted. For the large majority of adult patients such information is not readily available and when it is, it may not be fully accurate. Any known history of prenatal or birth problems or issues with developmental milestones should be noted. Childhood history should include childhood home environment including members of the family and social environment including the number and quality of friendships. A detailed school history including how far the patient went in school and how old they were at that level, any special education circumstances or learning disorders, behavioural problems at school, academic performance, and extracurricular activities should be obtained. Childhood physical and sexual abuse should be carefully queried.
Work history must cover the types of jobs, performance at jobs, reasons for changing jobs, and current work status. The nature of the patient’s relationships with supervisors and co-workers should be reviewed. The patient’s income, financial issues, and insurance coverage including pharmacy benefits are often important issues.

Marriage and relationship history including sexual preferences and current family structure should be explored. This should include the patient’s capacity to develop and maintain stable and mutually satisfying relationships as well as issues of intimacy and sexual behaviours. In women, a reproductive and menstrual history is important as well as a careful assessment of potential for current or future pregnancy. Current relationships with parents, grandparents, children, and grandchildren are an important part of the social history. It is important to identify cultural and religious influences on the patient’s life and current religious beliefs and practices.

Premorbid Personality

The premorbid personality of the patient often gives valuable insights into his/her symptomatology, diagnosis and management. Ideally, the premorbid personality of an individual should be assessed in the interview with corroborative evidence. Patients who are unwell often give a false reporting of their premorbid personality, and in cases where there is no available informant, a reassessment may be warranted once patient’s symptoms have improved.

Substance Use/Abuse and Addictions

A careful review of substance use, abuse, and addictions is essential to the psychiatric interview. The clinician should keep in mind that this information may be difficult for the patient to discuss, and a nonjudgmental style will elicit more accurate information. If the patient seems reluctant to share such information specific questions may be helpful (e.g., “Have you ever used intravenous drugs?” or “Do you drink alcohol every day?”). History of use should include what substances have been used including alcohol, drugs, medications (prescribed or not prescribed to the patient), and routes of use (oral or intravenous). The frequency and amount of use should be determined keeping in mind the tendency for patients to minimize or deny use that may be perceived as socially unacceptable.

Other important substances and addictions that should be covered in this section include tobacco and caffeine use.

Check Your Progress 3

Note:  

i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) Enumerate the various elements of history taking and recording.
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Techniques of Interviewing and Case History Taking
1.7 TECHNIQUES OF HISTORY TAKING

General principles of the psychiatric interview such as the doctor-patient relationship and confidentiality are described in the earlier section. In addition to the general principles, there are a number of specific techniques that can be effective in obtaining information in a manner consistent with the general principles. These helpful techniques can be described as facilitating and expanding interventions. There are also some interventions that are generally counterproductive and interfere with the goals of helping the patient tell their story and reinforcing the therapeutic alliance.

Effective Listening

The first and foremost skill in eliciting a good history is the art of patient and receptive listening. The professionals must not only listen to what has been said by the patient but also focus on to the non-verbal gestures and observe the behaviour through different phases of the history. Other important components of effective listening are given in the Text Box-1.

<table>
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<tr>
<th>Text Box-1</th>
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<tbody>
<tr>
<td><strong>Key to effective listening</strong></td>
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<tr>
<td>1) Connotative meanings of words</td>
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<td>2) Idiosyncratic uses of language</td>
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<td>3) Voice tones and modulation</td>
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<td>4) Observe posture, gestures, facial expressions</td>
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<td>5) Awareness of dissonances between modes of expression</td>
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<td>6) Attending to one’s own internal reactions</td>
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At times, despite their best attempts, professionals often hit roadblocks and are unable to obtain valuable information from the patient. It is best to learn to be aware of such situations and to assess the possible reasons that may be causing the same (see Text Box-2).

<table>
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<tr>
<th>Text Box-2</th>
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<tbody>
<tr>
<td><strong>Factors which may block collection of information</strong></td>
</tr>
<tr>
<td>1) Patient-therapist dissimilarities - Race, Gender, Culture, Religion, Dialect, Socioeconomic class</td>
</tr>
<tr>
<td>2) Superficial similarities may lead to incorrect assumptions of shared meanings</td>
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<tr>
<td>3) Counter-transference - therapist fails to hear or reacts inappropriately to content reminiscent of one’s own unresolved conflicts</td>
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<tr>
<td>4) Emergency department</td>
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<tr>
<td>5) Professional having a bad day</td>
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Questioning

While trying to various areas of the history the therapist should start with open ended broad questions and then should gradually narrow down the focus. For example, the opening question can be “what brings you here?”. Whenever possible, questions which can elicit only a “yes” or “no” answer must be avoided.
Facilitating Information Gathering

These are some of the techniques (see Text Box-3) that are effective in enabling the patient to continue sharing their story and also are helpful in promoting a positive doctor-patient relationship.

<table>
<thead>
<tr>
<th>Text Box-3</th>
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<tbody>
<tr>
<td>Techniques which may facilitate information gathering</td>
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<tr>
<td>• Reinforcement</td>
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<td>• Reflection</td>
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<tr>
<td>• Summarizing</td>
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<tr>
<td>• Education</td>
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<tr>
<td>• Reassurance</td>
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<tr>
<td>• Encouragement</td>
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<tr>
<td>• Acknowledging emotion</td>
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<tr>
<td>• Humor</td>
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<tr>
<td>• Nonverbal communication</td>
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<tr>
<td>• Silence</td>
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Expanding the scope of information: There are a number of techniques (see Text Box-4) that can be used to expand the focus of the interview. These techniques are helpful when the line of discussion has been sufficiently mined, at least for the time being, and the interviewer wants to encourage the patient to talk about other issues. These techniques are most successful when a degree of trust has been established in the interview and the patient feels that the professional is nonjudgmental about what is being shared.

<table>
<thead>
<tr>
<th>Text Box-4</th>
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<tbody>
<tr>
<td>Techniques for expanding the scope of information</td>
</tr>
<tr>
<td>• Clarifying</td>
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<tr>
<td>• Associations</td>
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<tr>
<td>• Leading</td>
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<tr>
<td>• Probing</td>
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<tr>
<td>• Transitions</td>
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<tr>
<td>• Redirecting</td>
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</table>

Techniques which can Impede the Information Collection

While supportive and expanding techniques facilitate the gathering of information and the development of a positive doctor-patient relationship, it is important to note that certain techniques can actually hamper the interview and collection of information (see Text Box-5). Some of these activities are from the same categories as the more useful interventions but are unclear, unconnected, poorly timed, and not responsive to the patient's issues or concerns.
Identification and Assessment of Mental Disorders

### Text box-5

**Techniques which can impede the information collection**

- Closed-ended questions
- Compound questions
- Why questions
- Judgmental questions
- Minimizing patient's concerns
- Premature advice
- Premature interpretations
- Abrupt transitions
- Nonverbal communication

### Check Your Progress 4

**Note:**

1. Read the following question carefully and answer in the space provided below.
2. Check your answer with that provided at the end of this unit.

1) Enlist the various techniques which can impede history taking.

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1.8 CLOSING OF INTERVIEW

The last 5 to 10 minutes of the interview are very important and often sufficient attention is not given to the same by an inexperienced interviewer. Patients often keep important issues or questions until the end of the interview and having at least a brief time to identify the issue is helpful. If there is to be another session, then the psychiatrist can indicate that this issue will be addressed at the beginning of the next session or ask the patient to bring it up at that time. It can also be useful to give the patient an opportunity to ask a question. “I’ve asked you a lot of questions today. Are there any other questions you’d like to ask me at this point?” or asking the patient if he has any other additional information to share which therapist has not asked.

If this interview was to be a single evaluative session, then a summary of the diagnosis and options for treatment should generally be shared with the patient. If this was not to be a single session and the patient will be seen again, then the professional may indicate that they can work further on the treatment plan in the next session.

1.9 MEDICAL RECORDS

Throughout the interview, most professionals take notes. Generally, these are not verbatim recordings, except for the chief complaint or other key statements. Occasionally, patients may have questions or concerns about the note-taking. These concerns, which often have to do with confidentiality, should be discussed (and during this discussion notes
should not be taken). Too much attention to the record keeping can be distracting. It is important that eye contact be maintained as much as possible during the note-taking. Otherwise, patients will feel that the record is more important than what they are saying. Also, the interviewer may miss nonverbal communications that can be more important than the words being recorded.

### 1.10 INTERVIEWING THE DIFFICULT PATIENTS

1) **Hostile, Agitated and Potentially Violent Patients**

Safety for the patient and the therapist is the priority when interviewing agitated patients. Hostile patients are often interviewed in emergency settings, but angry and agitated patients can present in any setting. The chairs should ideally be placed in a way in which both the interviewer and patient could exit if necessary and not be obstructed. The professional should be aware of any available safety features and should be familiar with the facility’s security plan. If the professional is aware in advance that the patient is agitated, then they can take additional preparatory steps such as having security closely available if necessary. The professional should be aware of their own body position and avoid postures that could be seen as threatening including clenched hands or hands behind the back. The therapist must avoid having things like stethoscope around the neck, nor should have other things hanging around here and there. Therapist attitude should never convey a violent patient that he may be deceived or punished. Adequate distance must be maintained from the patient.

The professional should approach the interview in a calm, direct manner and take care not to bargain or promise to elicit cooperation in the interview. As stated above, the priority must be safety. However, a professional who is fearful regarding their own physical safety will be unable to perform an adequate assessment. Similarly, a patient who feels threatened will be unable to focus on the interview and may begin to escalate thinking that he or she needs to defend him/herself. An interview may need to be terminated early if the patient's agitation escalates. Generally, unpremeditated violence is preceded by a period of gradually escalating psychomotor activity, professional should consider whether other measures are necessary including assistance from security personnel or need for medication and/or restraint.

If the patient makes threats or gives some indication that they may become violent outside the interview setting, then further assessment is necessary. Because past history of violence is the best predictor of future violence, past episodes of violence should be explored as to setting, what precipitated the episode, and what was the outcome or potential outcome (if the act was interrupted). Also, what has helped in the past in preventing violent episodes (medication, time-out, physical activity, or talking to a particular person) should be explored. Is there an identified victim and is there a plan for the violent behaviour? Has the patient taken steps to fulfill the plan? Depending on the answers to these questions the professional may decide to prescribe or increase antipsychotic medication, recommend hospitalization, and perhaps, depending on the jurisdiction, notify the victim.

2) **Deceptive Patients**

Mental health professionals are trained to diagnose and treat psychiatric illness. Although professionals are well trained in eliciting information and maintaining awareness for deception, these abilities are not foolproof. Patients lie or deceive their doctors for many different reasons. Some are motivated by secondary gain (e.g., for financial resources, absence from work, or for a supply of medication). Some patients may
deceive, not for an external advantage, but for assuming a sick role. There are no current biological markers to definitively validate a patient’s symptoms. Hence, professionals are dependent on the patient’s self report. Given these limitations, it may be useful, especially when there is question about the patient’s reliability (may be related to inconsistencies in the patient's report), to gather collateral information regarding the patient. This allows having a more broad understanding of the patient outside of the interview setting, and discrepancies in symptom severity between self report and collateral information may suggest deception.

3) Suicidal Patient

There is a false notion that patients should not be questioned about suicidal behaviour directly as talking about suicide may actually provoke such acts. However, in reality, most of the patients who commit suicide do communicate about the same either verbally, non-verbally or both. It is always better to ask the patient directly about wish to die, any suicidal thoughts, suicidal plans, or suicidal attempts, etc. In fact, this may be the first opportunity given to the patient to discuss about the same and may be therapeutic on its own.

1.11 LET US SUM UP

History taking is an art. A good interviewer is one who shows concern for the patient, has adequate time to listen to the patient, is able to convey empathy and build a strong doctor-patient relationship, and does not lose the focus. For good history taking, the professional should be properly dressed and groomed and should spare at least 45-90 minutes. At the beginning of the interview, consent of the patient should be sought and they should be ensured about the privacy and confidentiality. The therapist should respect the patient’s needs and these should be given the upmost consideration. The data must be obtained in the form of identification data, chief complaints, elaboration of the same in a chronological order as part of history of present illness, effect of various bio-psycho-social factors on the development, progression, continuation/ persistence or amelioration of symptoms must also be understood. Besides focusing on the current symptomatology, history taking should also include past psychiatric and medical history, family history of medical and psychiatric disorders, personal history including history of birth, early development, education, occupation, present living situation, premorbid personality, history of substance abuse, treatment history should be evaluated. Wherever possible, the therapist should use open ended questions, and should avoid closed ended or compound questions and should refrain from giving premature advice. The interview must end with giving the patient an opportunity to ask questions. Further, by the end of the history taking the therapist should convey to the patient about the possible diagnosis and possible management strategies available for the same.

1.12 ANSWER TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) To establish a criteria-based diagnosis.
2) 45-90 minutes.
3) Interview room should be relatively sound proof.
Check Your Progress 2

Consent must be obtained from all the patients prior to starting the interview. Patient should be provided an environment of privacy and confidentiality of the information must be ensured. Therapist must respect the patients need, must be empathetic to the patient and strive to build a good rapport with the patient.

Check Your Progress 3

Elements of history taking and recording include identification data, chief complaints, assessing the reliability, evaluating the onset, precipitating, aggravating and maintaining factors and course of the symptoms. Every attempt must be made to understand the chronology of the symptoms. Further history taking should focus on past and current medical history, family history of psychiatric and medical disorders, personal history (early birth, developmental history, educational history, occupational history, marital and sexual history, present living situation etc.), premorbid personality and substance abuse history.

Check Your Progress 4

Use of closed-ended questions, compound questions, questions starting with ‘why’ can impede the information gathering. Additionally, questions which can be interpreted as therapist trying to make judgment about some aspect of patients can also impede the flow of information. Similarly, if the therapist tries to minimize the patient's concerns, or prematurely tries to interpret the information or give advice, it may hamper the doctor-patient relationship and the flow of information. Similarly, if the non-verbal communication of the therapist indicates that he/she are not interested in patient, it can lead to interruption of flow of information.

1.13 UNIT END QUESTIONS

1) What are the most important aspects of history taking?

2) What are the important aspects of evaluation of a violent patient in an emergency setting?

1.14 REFERENCES AND SUGGESTED READINGS


UNIT 2 STEPS IN MENTAL HEALTH (STATUS) ASSESSMENT

Structure
2.0 Introduction
2.1 Learning Objectives
2.2 Components of Mental Status Examination
2.3 Mental Status Assessment of an Un-cooperative Patient
2.4 Case Formulation and Diagnosis
2.5 Special Methods to Assess Mental Health
2.6 Let Us Sum Up
2.7 Answers to Check Your Progress Exercises
2.8 Unit End Questions
2.9 References and Suggested Readings

2.0 INTRODUCTION

The mental health of an individual is often reflected in the mental status examination (MSE), which is an integral and most important aspect of the psychiatric assessment. It can be understood as an equivalent of the physical examination in the rest of medicine. The MSE attempts to assess all areas of an individual’s current mental functioning and forms the basis of identifying any signs and symptoms of mental illnesses. Sometimes, it may be the most significant determinant of establishing the diagnosis.

Information gathered as a part of the mental status examination can in fact begin prior to the actual verbal communication between the patient and the therapist and involves assessment of verbal, nonverbal and behaviour component of the interaction throughout the interview. Most of the information does not require direct questioning, and the information gathered from observation can guide the clinician to the in-depth picture of patient’s psychopathology. Direct questioning augments and rounds out the MSE. The MSE is also useful during subsequent visits to compare and monitor changes over time. The psychiatric mental status examination includes cognitive screening to understand the basic cognitive functioning of the individual. A good mental status examination usually takes 45 minutes to 1 hour or longer depending on the level of psychopathology and cognitive status.

The components of the mental status examination are presented in this Unit in the order one might include them in the written note for organizational purposes, but as noted above, the data is gathered throughout the interview. In this Unit, we shall restrict our discussion to the mental health assessment of adults.

2.1 LEARNING OBJECTIVES

After studying this Unit, you will be able to:

- Learn the appropriate observations to make in MSE;
2.2 COMPONENTS OF MSE

The integral components of MSE are included in **Text Box 1** and detailed below.

**Text Box 1**

Components of Mental Status Examination

- Appearance and behaviour
- Psycho-Motor activity
- Speech
- Mood
- Affect
- Form of thought
- Thought content
- Possession of thought
- Perceptual disturbances
- Cognitive functions
- Judgment
- Insight

**Appearance and Behaviour**

This includes a general description of how the patient looks, acts and behaves while entering the interview situation, during the interview and while he leaves the office of the clinician after completion of the interview. With regard to the looks of the patient, the clinician should focus on key features like how is the patient groomed, is he tidy, is he kempt, what is the facial expression of the patient, does the patient have any abnormal movements and is there something typical/atypical about patient. For example, just observing that a patient entered the interview situation with a thumping gait, is dressed in bright colour dress and is having various religious threads around the neck, can provide significant lead for further evaluations for conditions like mania or psychosis depending on other associated features. Items to be noted include what the patient is wearing, and whether it is appropriate for the context. Distinguishing features, including disfigurations, scars, and tattoos are to be noted. Any unusual or sustained postures and pacing should be noted and described. The presence or absence of any tics should be noted, as should be jitteriness, tremor, apparent restlessness, lip-smacking, and tongue protrusions.

With regard to patient’s behaviour attention should be paid to facts like, how much importance does the patient give to the social norms of greeting to each other, whether he waits till he is asked to sit, does he still or is he fidgety, does the patient make eye contact are you able to emotionally connect with the patient, what is the affect of the
patient, does the patient exhibit any odd behaviour, does the patient appear to be interested in the interview, or appears angry and confrontative, etc. While describing the patient’s behaviour, a general statement about whether they are exhibiting acute distress and then a more specific statement about the patient’s approach to the interview should be recorded. The patient may be described as cooperative, agitated, disinhibited, disinterested, etc. Appropriateness should also be kept in mind in considering in the interpretation of the observation.

**Psycho-Motor Activity**

Motor activity may be described as normal, decreased (generalized slowing, bradykinesia), or increased (agitated, restless). This helps to understand the diagnoses (e.g., depression versus mania) as well as possible neurological or medical issues. Paying attention to psychomotor activity can also provide clues to adverse reactions or side effects of medications such as tardive dyskinesia, akathisia, or parkinsonian features.

**Speech**

While describing the speech, one should consider the fluency, amount, rate, tone, and volume of the spoken speech. Fluency refers to whether the patient has full command of the language as well as to potentially more subtle fluency issues such as stuttering, word finding difficulties, or paraphasic errors. The evaluation of the amount of speech refers to whether it is normal, increased, or decreased. Decreased amount of speech may suggest anxiety or disinterest to thought blocking or psychosis. An increased amount of speech is frequently seen in mania or in agitated psychotics. Along with this, it is important to assess the rate of the speech. Is it slowed or rapid (pressured)? Finally, speech can be evaluated for its tone and volume. Tonal inflections (change of tone or speech) are exaggerated in demonstrative patients and may be decreased in patients with psychosis. The volume of spoken speech is also frequently increased in mania or agitated patients and decreased in depressed or anxious patients. However, while interpreting any of the above features, patients own premorbid level should be considered for comparison rather than the therapists own speech or features of speech noted in general.

**Mood and Affect**

Traditionally, mood is defined as the person’s internal and sustained emotional state. Its experience is subjective, and hence it is best to use the patient’s own words in describing their mood. Terms such as ‘sad’, ‘angry’, ‘guilty’, or ‘anxious’ are common descriptions of mood. Affect on the other hand represents the patient’s current state of emotional responsiveness. It should be assessed by observing the outward display of emotion by the patient. Affect is often described with the following elements: quality, range, reactivity and appropriateness. Terms used to describe the quality (or tone) of a patient’s affect include dysphoric, happy, euthymic, irritable, angry, agitated, tearful, sobbing, and flat. Speech is often an important clue to assessment of affect but not exclusive. Range of affect is important to evaluate and it represents the entire continuum of affective states seen during the interview. It may be described as “restricted” or “blunt”, indicating pathological state. The reactivity of the affect indicates the change in the affect in relation to environmental or internal stimuli (for e.g., if the patient smiles when the therapist makes a light hearted comment). It should also be noted if the affect of the patient is appropriate to the current circumstances, clinical situation and what he/she is thinking about (thought content).

**Form of Thought**

Form of thought or thought process differs from thought content in that it does not describe what the person is thinking rather how the thoughts are formulated, organized,
and expressed. A patient can have normal thought process with significantly delusional thought content. Conversely, there may be generally normal thought content but significantly impaired thought process. Normal thought process is typically described as linear, organized, and goal-directed.

The abnormal thought process is described as flight of idea, tangentiality, circumstantiality, perseveration, thought block, neologism, poverty of speech, etc. With flight of ideas, the patient rapidly moves from one thought to another, at a pace that is difficult for the listener to keep up with, but all of the ideas are logically connected. A circumstantial patient overincludes details and materials that is not directly relevant to the subject or answers of the question but does eventually returns the subject or answer of the question. Tangential thought process may at first appear similar, but the patient never returns to the original point or question. The tangential thoughts are seen as irrelevant and related in a minor, insignificant manner. Perseveration is the tendency to focus on a specific idea or content without the ability to move on to other topics. The perseverative patient will repeatedly come back to the same topic despite the interviewer’s attempts to change the subject. Thought blocking refers to a disordered thought process in which the patient appears to be unable to complete a thought. The patient may stop mid-sentence and leave the interviewer waiting for the completion. When asked about this patients will often remark that they do not know what happened and may not remember what was being discussed.

Neologisms refer to a new word or condensed combination of several words that is not a true word and is not readily understandable although sometimes the intended meaning or partial meaning may be apparent. Word salad is speech characterized by confused, and often repetitious, language with no apparent meaning or relationship attached to it. However, it is important to remember that eliciting the form of thought, especially when on subtle abnormalities may be present is slightly different from a normal interview process. The best way to elicit a thought process abnormality is to give an open ended question or give a specific topic to the patient and ask them to speak for some time on the same, for example, “tell me something about the school which you went to”. Further, it needs to be understood that at times it may be difficult for the therapist to follow the thought process closely because of various reasons and in such circumstances, recording the interview with the permission of the patient for later analysis may be useful.

**Thought Content**

Thought content is essentially what thoughts are occurring to the patient or the meaning of the words expressed by the patient during the interview. This is inferred by what the patient spontaneously expresses, as well as responses to specific, questions aimed at eliciting particular pathology. Some patients may persistently be repetition on specific content or thoughts. For example, a depressed patient may think that his future is bleak and constantly think about this, while the anxious patient may worry about more daily occurrences. Thought content also includes delusions which are false, fixed ideas that are held despite evidence to contrary and are not shared by others from the same socio-cultural and educational background. Questions that can be helpful include, “do you ever feel that people around are all looking at you/ like someone is following you/ want to harm you,” and “do you feel like the TV or radio has a special message for you?” Suicidality and homicidality also fall under the category of thought content. Simply asking if someone is suicidal or homicidal is not adequate. One must get a sense of ideation, intent, plan, and preparation. While completed suicide is extremely difficult to accurately predict, there are identified risk factors, and these can be used in conjunction with an evaluation of the patient’s intent and plan for acting on thoughts of suicide.
Other variables that can be useful in the assessment of both suicidal and homicidal thoughts and impulses include whether there is a contingency involved (‘if this happens then I will commit suicide’), whether the thoughts are new or chronic, and what prevents the patient from acting on them.

From completion point of view, it is important to remember that besides the psychopathology expressed by the patient as part of the thought content, the therapist should also actively question the patient to cover the whole range of psychopathology and document the presence and absence of various abnormalities.

**Possession of thought**

Most of us recognize our thoughts to be our own and under our control. However, in some clinical conditions, this possession of thought is lost. Obsessional thoughts are unwelcome and repetitive thoughts that repeatedly intrude into the patient’s consciousness. They are generally ego-alien, absurd, and resisted by the patient. Thought alienation is part of the First Rank Symptoms of Schneider. (First Rank Symptoms were initially proposed by Schneider as diagnostic criteria for Schizophrenia in 1959). These include thought insertion, thought withdrawal and thought broadcasting.

**Perceptual Disturbances**

Perceptual disturbances include hallucinations, illusions, depersonalization, and derealization. Hallucinations are perceptions that occur to an individual in the absence of stimuli to account for the same. Auditory hallucinations are the hallucinations most frequently encountered in the psychiatric setting. Other hallucinations can include visual, tactile, olfactory, and gustatory (taste). The interviewer should make a distinction between a true hallucination and a misperception of stimuli (illusion). Hearing the wind rustle through the trees outside one’s bedroom and thinking a name is being called is an illusion. Hypnagogic hallucinations (at the interface of wakefulness and sleep) may be normal phenomena. At times, patients without psychosis may hear their name called or see flashes or shadows out of the corner of their eyes. In describing hallucinations, the interviewer should include what the patient is experiencing, when it occurs, how often it occurs, and whether it is uncomfortable (ego dystonic) or not. In the case of auditory hallucinations, it can be useful to learn if the patient hears words, commands, or conversations and whether the voice is recognizable to the patient.

Depersonalization is a feeling that one is not oneself or that something has changed in oneself. Derealization is a feeling that one's environment has changed in some strange way that is difficult to describe.

**Cognition**

As part of the MSE, the interviewer should get an overall sense of the patient’s level of cognitive functioning. The elements of cognitive functioning that should be assessed are level of consciousness, attentiveness/alertness, orientation, concentration, memory (both short and long term), calculation, fund of knowledge, abstract reasoning, insight, and judgment. There are structured tests which can be used to assess all the above cognitive functions. However, it is important to remember that these tests can be applied universally and at time socio-cultural adaptation may be required. Another important aspect of cognitive function evaluation is that the therapist should tell the patient in advance that they may be administering certain simple tests to get an idea about the patient’s cognitive status. This is important because at times, patients may feel as to why such simple silly questions are asked to them and may consider that evaluation was demeaning to their status. For details of the cognitive functions, the readers are advised to refer the book "Steps in Mental Health (Status) Assessment".
Identification and Assessment of Mental Disorders

by Strub and Black (2000). Alternatively, simple test battery like mini mental status can be useful in providing about few of the cognitive functions.

A note should be made of the patient’s level of consciousness. Orientation can be assessed by asking the patient to tell about the time, name the place and name the accompanying person. Patient’s attention can be assessed by serial 7s subtraction with the patient starting at 100 and counting back by 7s up to five times, alternatively having the patient spell ‘world’ backwards. Immediate, recent and remote memory need to be separately evaluated. Immediate memory is tested by registration and recall. Registration of the patient tested by asking the patient to repeat three words (for example, ‘school, purple, honesty’) after the interviewer. Recall is tested by asking the patient to recollect the three words given 3 minutes earlier. Remote memory is tested by asking questions about previous events (e.g. birthdates of children) and seeking corroboration about the same from the informant.

Patient’s intelligence should be tested in the fields of general fund of knowledge (that assesses general awareness of the world e.g. who is the Prime Minister of the country?), calculation ability (by giving the patient simple and complex calculations, starting from single digit to double digits and then more complex calculations, starting from addition and then moving to subtraction, multiplication and division) and comprehension (by narrating simple stories which have a moral and asking the patient to tell the moral of the story). Abstract reasoning is the ability to shift back and forth between general concepts and specific examples. Having the patient identify similarities between like objects or concepts (apple and pear, bus and airplane, or a poem and a painting) as well as interpreting proverbs can be useful in assessing one’s ability to abstract. Cultural and educational factors and limitations should be kept in mind when assessing ability to abstract. Judgment refers to the person’s capacity to make good decisions and act on them. The level of judgment may or may not correlate to the level of insight. A patient may have no insight into their illness but have good judgment. It has been traditional to use hypothetical examples to test judgment. For example, “What would you do if you found a stamped envelope on the sidewalk?” However, it is better to use real situations from the patient’s own experience to test judgment. The important issues in assessing judgment include whether a patient is doing things that are dangerous or going to get them into trouble and whether the patient is able to effectively participate in their own care. Significantly impaired judgment may be cause for considering a higher level of care or more restrictive setting such as inpatient hospitalization.

Insight

Insight, in psychiatric evaluation, refers to the patient’s understanding of whether they have an illness, whether this illness is physical or psychological, what is the cause of the illness and whether they need treatment, what would be their role in treatment, etc. Depending on the assessment, the patient may have no insight, partial insight, or full insight. Insight is generally lost in psychosis. The amount of insight is not an indicator of the severity of the illness.

Physical Examination an important supplement to mental state examination

The physical examination should not be forgotten and it remains important in every patient. The inclusion and extent of physical examination will depend on the nature and setting of the psychiatric interview. Vital signs, weight, waist circumference, body mass index, and height may be important measurements to follow particularly given the potential effects of psychiatric medications or illnesses on these parameters. A focused neurological evaluation is an important part of the psychiatric assessment.
Check Your Progress 1

**Note:**

i) Read the following questions carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) Enumerate the various components of MSE.

2) Enumerate the various elements of cognition that need to be assessed.

### 2.3 MENTAL STATUS ASSESSMENT OF AN UNCOOPERATIVE PATIENT

Many a times, the clinicians are faced with non-cooperative patients. However, non-cooperativeness should not be equated with non-informativeness. When faced with such a patient, the clinicians should rely more on observations. A simple guide to evaluate the mental status of an un-cooperative patient is given by Kirby (1921) and assessment covers the following areas:

**General reaction and posture:** A note should be made of attitude and posture, whether it is voluntary comfortable, natural, how the patient does reacts when he is placed in an uncomfortable position. Further a note should be made of reaction (resistive, evasive, irritable, apathetic, complaint) of the patient towards the clinicians and other staff, spontaneous acts (like playfulness, mischievousness or assaultativeness), eating and dressing, bowel and bladder control. A note of change in the attitude of the patient throughout the interview should also be kept.

**Facial expression:** Whether the patient appears alert, attentive, placid, vacant, stolid, sulky, scowling, averse, perplexed, distressed, etc. Any signs of emotions: tears, smiles, flushing, perspiration. On what occasions?

**Eyes:** Open or closed, movements of the eyes, reaction to sudden approach of threat to stick pin in the eye, papillary reaction. Does the patient resist when the therapist attempts to open the eyes? Does the patient has any movements of the eyes or has a fixed gaze?

**Reaction to what is said or done:** A note should be made of patient's react to simple commands like show the tongue, move the limbs, grasp the hands. Similarly reaction to pin pricks, imitation of actions of others, automatic obedience, whether the motion of movement is slow or sudden should be evaluated.
Muscular reactions: Test for rigidity, catalepsy, waxy flexibility, negativism, etc.

Emotional responsiveness: Emotional responsiveness is the feeling shown by the patient while talking to the family or children or while describing sensitive issues of the history.

Speech: Efforts to talk, lip movements, whispers, movements of head.

Writing: Patient must be offered a paper and a pencil. Some of the un-cooperative patients may write while they fail to talk.

2.4 CASE FORMULATION AND DIAGNOSIS

Formulation

At the end of the data gathering, it is important to develop a formulation and diagnosis (diagnoses) as well as recommendations and treatment planning. In this part of the evaluation process, the data gathering is supplanted by data processing where the various themes contribute to a biopsychosocial understanding of the patient’s illness. The formulation should include a brief summary of the patient’s history, presentation, and current status. It should include discussion of biological factors (medical, family, and medication history) as well as psychological factors such as childhood circumstances, upbringing, and past interpersonal interactions and social factors including stressors, and contextual circumstances such as finances, school, work, home, and interpersonal relationships. These elements should lead to a differential diagnosis of the patient’s illness (if any) as well as a provisional diagnosis.

Diagnosis

The diagnosis of the patient has multifold implications. First, it is an attempt to understand in a few standardized words what is wrong with him/her. It has significant impact on the clinician's understanding of the patient’s treatment (in terms of pharmacological/non pharmacological measures, duration of treatment, etc.) and prognosis. Hence, a diagnosis must be made with caution and after complete and adequate evaluation. Even after making a diagnosis, a good clinician is always ready to continue observing the patient, exploring the psychopathology in greater detail and revising the diagnosis if so required.

In addition to their psychological symptoms, patient’s often have multiple other problems (physical co-morbidity, psychosocial issues, etc.). Hence, both current diagnostic systems, the DSM-IV-TR and the ICD-10 use the multiaxial diagnostic systems. The DSM-IV-TR classification a multiaxial diagnostic assessment that includes:

- **Axis I**: Major psychiatric diagnoses such as major depression, schizophrenia, and generalized anxiety disorder
- **Axis II**: Personality disorders and mental subnormality or pervasive developmental disorders
- **Axis III**: Medical conditions
- **Axis IV**: Stressors
- **Axis V**: Global assessment of functioning (GAF) on a 100-point scale referring to the patient's overall functioning based on symptoms, activities of daily living, and social and work interactions. Higher numbers indicate a higher level of functioning and lower numbers indicate various levels of impairment of functioning.
Check Your Progress 2

Note:  i) Read the following questions carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) Enumerate the various axes of the DSM-IV-TR multiaxial diagnostic system.

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2.5 SPECIAL METHODS TO ASSESS MENTAL HEALTH

1) Interviewing Schedules

These include structured/semi-structured interviews for diagnosing mental health disorders. They are infrequently used in clinical practice and are more commonly used for research practices. These include:

- The Mini-International Neuropsychiatric Interview (MINI) is a short structured clinical interview which enables researchers to make diagnoses of psychiatric disorders according to DSM-IV. The administration time of the interview is approximately 20 minutes.

- The Schedule for Affective Disorders and Schizophrenia (SADS) is a collection of psychiatric diagnostic criteria and symptom rating scales published in 1978. The diagnoses covered by the interview include schizophrenia, schizoaffective disorder, major depressive disorder, bipolar disorder, anxiety disorders and a limited number of other diagnoses.

- Schedules for Clinical Assessment in Neuropsychiatry (SCAN) is a set of tools created by WHO aimed at diagnosing and measuring mental illness that may occur in adult life. It can be used with both ICD-10 or DSM-IV systems. The entire SCAN interview consists of 1,872 items, spread out over 28 sections. Most patients, however, will only need parts of the interview, and it is assessed in the beginning of each section if the section is actually relevant.

- The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) is a diagnostic exam used to determine DSM-IV Axis I disorders (major mental disorders) and Axis II disorders (personality disorders). The instrument was designed to be administered by a clinician or trained mental health professional, for example a psychologist or social worker. Ideally, this would be someone who has had experience performing unstructured, open-ended question, diagnostic evaluations.

- The World Health Organisation Composite International Diagnostic Interview (CIDI) is a structured interview for psychiatric disorders. As the interview is designed for epidemiological studies, it can be administered by those who are not clinically trained and can be completed in a short amount of time.
2) **Psychological Tests**

Psychological tests have an unique role in the assessment of mental health. While these are supplementary to a good mental state examination, these often provide valuable insights in to the psychopathology of the patient. Psychological tests are particularly useful in certain clinician situations like:

- When patient is guarded with regards to his/her inner experiences/stressors
- In cases of differential diagnosis
- When detailed assessment of cognitive functions or personality is required

Further details on psychological assessments and tests shall be covered in another Unit of this Block.

3) **Rating Scales: Tools which may be useful in monitoring mental health longitudinally**

The term psychiatric rating scales encompasses a variety of questionnaires, interviews, checklists, outcome assessments, and other instruments that are available to inform psychiatric practice, research, and administration. Many such scales are useful in psychiatric practice to grade the severity of psychopathology and for monitoring patients over time or for providing information that is more comprehensive than what is generally obtained in a routine clinical interview. One advantage these scales have is that they assess a wide range of psychopathology, which may at times be missed in a clinical interview. Nevertheless, it must be remembered that these are only supplementary and cannot replace a good mental state examination. Rating scales may measure:

- Functional status, impairment, and general symptom severity (e.g. Global Assessment of Functioning Scale [GAF])
- Psychotic symptoms (e.g. Brief Psychiatric Rating Scale [BPRS], The Positive and Negative Syndrome Scale (PANSS) for Schizophrenia)
- Mood symptoms, e.g. Beck Depression Inventory (BDI), Hamilton Depression Rating Scale (HDRS), Young Mania Rating Scale (YMRS)
- Abnormal movements and medication induced side effects, e.g. Abnormal Involuntary Movement Scale (AIMS), Simpson-Angus Rating Scale for Extrapyramidal Side Effects
- Cognitive disorders, e.g. Mini Mental State Examination (MMSE)

### Check Your Progress 3

**Note:**

i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) **What are the uses of rating scales in practice?**

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2.6 LET US SUM UP

The mental state assessment is a crucial component of a psychiatric evaluation and the ability to perform a comprehensive MSE is an essential skill for a mental health professional. Although, the MSE is recorded in a structured form, there are no fixed steps for evaluation of the patient. Depending on the comfort of the patient and the therapist, questioning can be done for any of the aspect to begin with. By the end, the therapist should make sure that they have covered assessment of all the aspects of MSE. An important component of MSE is the direct observations made by the therapist of the patient. An assessment of patient’s physical and cognitive status is also part of assessment and should be meticulously performed. Un-cooperativeness on the part of the patient due to illness should not deter the therapist from carrying out the assessment. Once, the history taking and MSE is complete, it is important to put together all the information into a case formulation that leads to a provisional diagnosis or differential diagnoses. Besides the routine MSE, various diagnostic and phenomenological aids can be used as supplements to the clinical observations and rating scales can be used to grade the severity of psychopathology and monitor the patients psychopathology longitudinally.

2.7 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Appearance and behaviour, psychomotor activity, speech, mood and affect, form of thought, thought content, possession of thought, perception, cognitive functions, judgment, insight.

2) Level of consciousness, attention, orientation, attention, memory, intelligence (general knowledge, calculation, comprehension), abstraction.

Check Your Progress 2

- Axis I: Major psychiatric diagnoses
- Axis II: Personality disorders and mental subnormality or pervasive developmental disorders
- Axis III: Medical conditions
- Axis IV: Stressors
- Axis V: Global assessment of functioning (GAF)

Check Your Progress 3

Comprehensive assessment of psychopathology, monitoring a patient over time and research.

2.8 UNIT END QUESTIONS

1) Describe in detail the various components of mental status examination.

2) Describe the components of mental status examination in an un-cooperative patient.
2.9 REFERENCES AND SUGGESTED READINGS


UNIT 3  PSYCHOLOGICAL ASSESSMENT

Structure

3.1 Introduction

3.2 Learning Objectives

3.3 Objectives of Psychological Assessment

3.4 Types of Psychological Test
   3.4.1 Neuro-cognitive Assessment
   3.4.2 Assessment of Personality and Psychopathology
      3.4.2.1 Rating Scales
      3.4.2.2 Questionnaires
      3.4.2.3 Projective Tests
      3.4.2.4 Semi-projective Tests
      3.4.2.5 Innovative Approaches to Assessment

3.5 Psychological Assessment of Children

3.6 Ethics Aspects in Psychological Testing

3.7 Problems in Administration of Psychological Tests

3.8 Let Us Sum Up

3.9 Answers to Check Your Progress Exercises

3.10 Unit End Questions

3.11 References and Suggested Readings

3.1 INTRODUCTION

Psychological tests help to identify mental disorders in a standardized, reliable and valid manner. With the use of variety of tests, a diagnosis can be formulated. Psychological assessment refers to the process involved in collecting information about persons and using it to make important predictions and inferences about his cognition and personality. Psychological tests are means of assessing psychological characteristics. A psychological test is essentially an objective and standardized measure of a sample of behaviour. Psychological tests are like tests in any other science, as observations are made on a small but carefully chosen sample of an individual’s behaviour. In this respect, the psychologist proceeds in much the same way as the biochemist that tests a patient’s blood. The diagnostic or predictive value of psychological tests depends on the degree to which it serves as an indicator of a relatively broad and significant area of behaviour. The psychological test is a standardized measure that implies uniformity of procedure in administering and scoring the test. The testing conditions are also controlled.

3.2 LEARNING OBJECTIVES

After going through this Unit, you will be able to discuss the:

- Objectives of psychological assessment;
- Various types of psychological tests, that includes neuro-cognitive assessment and assessment of personality and psychopathology;
Identification and Assessment of Mental Disorders

- Assessment for children; and
- The ethical concerns in psychological testing.

### 3.3 OBJECTIVES OF PSYCHOLOGICAL ASSESSMENT

The objectives of psychological assessment are as follows:

a) **Diagnosis:** Psychological assessment helps to identify and understand the individual’s symptoms by providing evidence for psychopathology, thought disorder, signs of organicity or personality profile. This includes determining the nature and severity of any maladaptive behaviour. The diverse and often conflicting bits of information about the individual’s personality traits, behaviour patterns, environmental demands, are integrated into diagnostic formulation.

Patients often have co-morbid conditions such as schizophrenia, depression, anxiety, personality disorder or organic brain syndrome. The clinical presentation of these co-morbid conditions often, are not presented in the clear cut manner and thus, cause problems in making the diagnosis. Psychological tests help in identification of co-morbid conditions.

b) **Assessment of premorbid and present level of functioning:** The foremost goal of assessment is to identify the problem help in a basic understanding of the individual’s, intellectual functioning, personality characteristics, environmental pressures and resources.

It is also important to understand the person and his problems in the social context in which the individual operates.

c) **To elicit causative and maintaining factors of maladaptive behaviours:** There is a complex interaction of psycho-social and biological factors in the etiology of many psychiatric disorders as in any other medical disorder. At present, there is shift of focus on understanding and treating the underlying causes, and factors that could maintain the maladaptive behaviour like addiction. Often the underlying etiological factors are psychosocial factors operating at an individual level or in the family dynamics, or in the job situation. These factors are often not reported by the patient, as they do not recognize an association between psychosocial problems and illness.

d) **Treatment planning:** The assessment provides a basis for making decisions concerning the best treatment programme, be it hospitalization, the use of medication or psychotherapy, the modification of family patterns, or some other approach. The initial assessment also provides a baseline for comparison, later with other measures obtained during and following treatment. This is important but sometimes, forgotten aspect of assessment. It makes it possible to check on the effectiveness of an ongoing treatment programme, to see if modifications may be needed. It also allows for comparison of the relative effectiveness among different therapeutic and preventive approaches. This is important not only in treating the individual, but also in conducting the research that can advance our understanding of the disorders themselves, as well as the development of new and more effective assessment and treatment techniques. All of which ultimately, will enhance the prognosis for individuals suffering from psychological disorders. Furthermore, the importance of assessment has increased dramatically as the demand for accountability in therapy has grown. Assessment is not necessarily a onetime venture, it is an ongoing process.
c) **Research:** Psychological tests are essential part of research methodology in psychiatry, as they are reliable, valid and standardized tools to assess behaviours. In research, rating scales and questionnaires are used, as they can be administered with minimum training, have objective scoring and interpretation.

f) **Planning of rehabilitation:** While planning rehabilitation for patients with psychiatric illness or neurological disorders, handicaps, head injury patients, psychological assessment helps what would be the best level of job for the patient. If rehabilitation plans are not made and executed then chances of relapse or developing psychiatric problems are higher. At present, in most of the medical centres, more attention is being focused in helping patients to rehabilitate. This requires an understanding of patient’s level of cognitive functioning, i.e., attention, memory, intelligence, aptitude, interest and adaptability. The psychological testing can provide valuable information on all of these aspects, which can be used in planning the rehabilitation.

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**Check Your Progress 1**

**Note:**

i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) List various situations where psychological assessment is required.
   
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### 3.4 TYPES OF PSYCHOLOGICAL ASSESSMENT

Psychological assessment involves neurocognitive assessment (intelligence and memory), personality profile and psychopathology. The tests are selected according to the aim of assessment, e.g., diagnosis, rehabilitation or research. In a clinical setting, these tests are given on an individual basis. Observation of behaviour during testing is as important as the test performance, as the non-verbal clues indicate useful information like motivation, persistence, and concentration.

#### 3.4.1 Neuro-cognitive Assessment

This comprises of cognitive functions, namely, attention, concentration, perception, memory and intelligence. Some of the examples of these tests are as follows:

1) **Attention and Concentration:** All cognitive functions are dependent on attention span and ability to sustain attention. Clinically, attention can be assessed through observation during history taking and in interview sessions. Formally it can be assessed by asking the patient to repeat digits forward and backward. Forward digits are started from 3 and continued till 8 - 9 digits. The test is stopped after two consecutive failures. Backward digits are given from 2 to 8. The digits should not be presented either very fast or very slow. The ideal rate of presentation should be one digit per second. These can also be assessed on the subtest of Wechsler’s Adult Intelligence Test namely, Digit span and Digit Symbol test.

   The other methods used to assess attention and concentration is letter cancellation, colour cancellation, counting 20 to 1 backwards and serial subtraction 40 -3.
2) **Perception:** Bender Visual Motor Gestalt Test is a simple and short method of assessing organicity and visuomotor coordination, useful for both children and adults. This test consists of simple 9 designs printed against a white background on a separate card, which are to be copied by the patient on unlined paper. Objective scoring system is available. Evaluation of the protocol depends both in the form of the reproduced figures and on their relationship to each other. Probably, the most frequent clinical use for the test with adults is as a screening device for detecting signs of organicity.

3) **Memory:** In many psychiatric patients memory deficit is one of the symptoms. To assess this deficit, standardized and reliable method is required. Memory tests help to assess degree of impairment in memory functions. They also provide a baseline on which treatment programme can be planned specifically to enhance memory. An ideal test of memory should estimate deficits in all types of memory processes and should suggest anatomical localization as well as the etiological nature of the pathology. There are no biological tests that indicate memory deficits.

The currently available memory tests are PGI Memory scale, Wechsler Memory Scale III. It is partly covered in Verbal Intelligence Scale also. The test consists of both verbal items and nonverbal items. Some of the subscales in memory tests are as follows:

**Digit Span Test:** All memory tests and The Wechsler’s Adult Intelligence Scale include a Digit Span Subtest in which an increasing number of digits are presented for immediate verbal recall. The digits are recalled both in a forward and a reverse order. The rate of presentation for all digits is 1 second per digit. In the Number Span technique, the patient is given increasingly longer number of sequences. However, each succeeding sequence differs from the one before it in its last number, e.g., 6-2, 6-2-4, 6-2-4-8, and so forth. It is reported that young adults could recall an average of 9.06 numbers, whereas older persons (> 65 years) could retain only 5.87 numbers.

**Letter Span Test:** These tests are similar to the digit span tests except that letters are substituted for digits. The norms for letter span are 6.7 letters for people in their 20s and 6.5 letters for people in their 50s.

**Memory for sentences:** An average adult can correctly recall sentences of 24 or 25 syllables in length. The Stanford-Binet Scales include a sentence memory test at several age levels, beginning with 12 syllable sentences for 4-year-olds, 16 to 19-syllable sentences for 11-year-olds, and 20-syllable sentences for 13-year-olds. The syntax and vocabulary become more complex at higher age levels.

**Memory for Paragraph and Stories:** It is generally not possible to memorize a paragraph or a story word by word. However, most people can recall the ideas presented in the paragraph using some of their own words and some from the actual presentations, omissions, additions, elaborations, and shifts in the story’s sequence. Several methods of scoring have been suggested. Rapaport, et. al. (1968) developed a system in which they scored all segments of the story as correct in which “the change does not alter the general meaning of the story or its details”. They also included a four-point “distortion score” that reflects the extent of minor alterations as accurate “meaningful memories”.

Several of the paragraphs and stories that have been standardised for testing immediate and delayed recall include stories in the Stanford-Binet Test, the Wechsler Memory Scale, the Babcock Story Recall Test, and the Cowboy Story.
Wechsler memory scale III is most popularly used test, it is simple and assesses practical memory. This test is used all over the world. It consists of the following seven subtests:

a) **Personal and current information:** The participant is asked for age, date of birth, and identification of current and recent public officials.

b) **Orientation:** It is assessed by questions about the time and place.

c) **Mental control:** This subcategory is designed to test automatism, such as repeating the alphabet and simple conceptual tracking as in counting by fours from 1 to 53.

d) **Logical memory:** This subtest includes immediate recall of verbal ideas from two paragraphs. The examiner first reads the two paragraphs but stops after each paragraph to get the subject’s immediate recall. Paragraph A contains 24 memory units or ideas and paragraph B contains 33. The subject is given one point of credit for each correct idea recalled. The total score is the average recalled and extends up to 23.

e) **Digit span:** This subtest differs from the Digit Span Subtest of the Wechsler’s Adult Intelligence Scale by omitting the three-digit trial of digit forward and the two-digit trial of digit backward and not giving score credits for performance of nine or eight backward.

f) **Visual reproduction:** Each of the three cards with a printed design is shown for 5 seconds following each exposure, the patient draws that he remembers of the design. This is an immediate recall test but some examiners also recommend a delayed trial.

g) **Associate learning test:** This subtest consists of ten words, of which six are called “easy” as they have common associations such as “baby-cries” and the other four pairs are uncommon or “hard” associations such as “cabbage-pen”. The list of the word pairs is read three times. The subject tries to recall as many pair associates as he can remember after each reading. The total score is on half the sum of all correct associations to the easy pairs plus the sum of all correct associations to the hard pairs. The highest possible score is 21.

PGI memory scale: This scale has been standardized by Pershad for Indian population. It is used on both literate and illiterate adults and older persons. It has ten subtests, namely remote memory, recent memory, mental balance, attention and concentration, delayed recall, immediate recall, verbal retention for similar pairs, verbal retention for dissimilar pairs, visual retention, and recognition. There are 10 objects in first stimulus card of recognition test. The card is presented for observation for 30 seconds, and then second stimulus card having 20 objects is presented. The patient has to recognize the objects given in the first card. This test has objective scoring, and norms according to age and gender.

Memory questionnaires: For assessment of working memory simple questionnaires can also be used. The content of these questionnaires is related to historical facts, salient life events, and memory of specific situations on the basis of repeated experience with everyday memory tasks. Generally, immediate recent and remote memory is assessed. These terms also are referred to as short term and long-term memory.
Identification and Assessment of Mental Disorders

**Brief Cognitive Rating Scale (BCRS)** (Reisberg et al, 1983): Patients with Alzheimer’s disease show a fairly uniform decline on BCRS, which utilizes seven, rating categories for each of the five axis. Several other diagnostic categories such as mania and acute anxiety will cause some deficits on the concentration axis. The five axes include the following: concentration and calculating ability, recent memory, past memory, orientation, functioning and self-care. Items in each axis are scored from information obtained during a clinical interview with the patient in the presence of spouse or the caretaker.

4) **Intelligence:** Assessment of intelligence is the most common referral received by the psychologist. Intelligence tests are divided into verbal tests and performance tests. Some of the commonly used tests of intelligence are as follows:

**Wechslers Adult Intelligence Scale (WAIS)** is the most widely used intelligence scale. It consists of verbal performance scales of which are further subdivided into subscales. The details of these subscales are as follows:

<table>
<thead>
<tr>
<th>Verbal</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Block Design</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Picture Completion</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>Picture Arrangement</td>
</tr>
<tr>
<td>Similarities</td>
<td>Object assembly test</td>
</tr>
<tr>
<td>Digit Span</td>
<td>Digit Symbol substitution test</td>
</tr>
<tr>
<td>Vocabulary</td>
<td></td>
</tr>
</tbody>
</table>

(Indian Adaptation of both of these verbal (Pershad & Verma) and performance (Ramalingaswamy) scales are available)

**Bhatia’s Battery of Performance Test of Intelligence:** The test was constructed by Dr. C.M. Bhatia in Agra, India. This test measures performance intelligence. The test consists of five subtests that are loaded with the general factor (G) and a specific factor (S). These are:

a) Koh’s block design test consisting of 10 designs. The time limit for the first 5 designs is 2 minutes and for the next 5, it is 3 minutes. The test is the measure of perceptual motor coordination, mental coordination and ability for analysis and synthesis.

b) Alexander’s Pass along test, which consists of 8 designs. The time limit for the first four designs is 2 minutes and for the next four is 3 minutes. It provides with the measure of spacial, perceptual and motor coordination.

c) Pattern drawing test it consists of 8 items starting from a simple square. The participant should draw each pattern without lifting the pencil and without retracing. It measures motor coordination, perceptual motor ability, imagery and spacial component.

d) Immediate memory subtest has 2 sub parts. In part 1 the participant is to recall the digits as provided to him whereas, in the second the participant is to recall them backwards.

e) Picture construction test consists of 5 items. It measures the ability to apprehend relations, mental imagery and conceptualize part of the whole.
**Standard Progressive Matrices (SPM):** This test was developed by Raven and has three forms. Besides Standard Progressive Matrices, there are Coloured Progressive Matrices and Advance Matrices. SPM has five sets of matrices, with 12 patterns in each set. The age range on which the test can be administered is 12 years onwards. This test is considered a culturally fair test, as familiarity with any specific language is not required. This has an objective scoring and intelligence is expressed in terms of percentile ranks. The task is to choose the missing insert from the given alternatives. The easier items require accuracy of discrimination, the more difficult items involve analogies, permutations and alternations of pattern and other logical relations.

**Kaufman Brief Intelligence Test (KBIT):** which is a brief, individually administered measure of verbal (vocabulary subtest) and non verbal (Matrices subtest) intelligence. This is a new test to assess intelligence. It can be used with those aged 4-90 years old and takes between 15-30 minutes to administer. It can be useful in a variety of settings including clinical, educational, vocational, and research settings. The current second edition generates three scores: Verbal, Non Verbal and an overall IQ composite.

### 3.4.2 Assessment of Personality and Psychopathology

Clinical assessment of personality and psychopathology is a complex task and it is one of the most critical aspects of working with emotionally disturbed individuals. Personality testing is done for many reasons. Its aim is to assess what the person is usually like in thoughts, feelings and behaviour patterns. Personality tests tap individual differences of reacting to certain situations.

The thoroughness and accuracy of assessment can determine the extent to which an individual’s problems are understood and how well his or her needs are met through therapy. In recent years, objective assessment has grown more popular and important due to its varied applications and advantages, e.g., quantification in improvement, research, consumer protection etc. Personality tests most often refers to measures of emotional states, personality type and traits e.g. introversion-extroversion, interpersonal relations, interests, motivation and attitudes. Psychopathology is assessed in personality tests, it is inferred from the deviations from normalcy and there are specific rating scales to assess Personality tests are in form of: (a) Rating Scales, (b) Questionnaires, (c) Projective Tests and Semi Projective Tests. All these tests have their own advantages as well as disadvantages. Generally, a test is selected according to the aim of the assessment. Some of the commonly used personality tests are as follows:

#### 3.4.2.1 Rating Scales

To measure psychopathology objectively rating scales can be used. Rating scales enable the observer to indicate not only the presence or absence of a trait or behaviour, but also its prominence. The rating scales are generally of two types self-rating scales and observer rating scales.

**Beck’s Depression Rating Scale and Hamilton Rating Scales** are commonly used to measure depression. Anxiety can be measured on State and Trait Anxiety Scale and Hamilton Anxiety Scale.

**Brief Psychiatric Rating Scale (BPRS)** is the most widely used rating scale for recording observations in clinical practice and in psychiatric research. The BPRS provides a structured and quantifiable format for rating clinical symptoms such as somatic concern, anxiety, emotional withdrawal, guilt feelings, hostility, suspiciousness, and unusual thought patterns. It contains 18 scales that are scored from ratings made by the clinician following an interview with the patient. The distinct patterns of behaviour
reflected in the BPRS rating, enable clinicians to make a standardized comparison of their patients’ symptoms with the behaviour of other psychiatric patients. The BPRS has been found to be an extremely useful instrument in clinical research, especially for the purpose of assigning patients to treatment groups on the basis of similarity in symptoms.

3.4.2.2 Questionnaires

The Minnesota Multiphasic Personality Inventory (MMPI) is certainly among the most widely used psychodiagnostic instrument. The test consists of 550 unique items whose content ranges from psychiatric symptoms to political and social attitudes. As such, many researchers have felt that the MMPI can be a particularly useful diagnostic measure in instances where there is a denial of problems. The ten basic clinical scales of MMPI include-HS: Hypochondriasis, D: Depression, HY: Hysteria, Pd: Psychopathic deviate, Mf: Masculinity-femininity, pa:Paranoia, Pt: Psychasthenia, Sc: Schizophrenia, Ma: Hypomania, Si: SocialIntroversion scale.

The Sixteen Personality Factor Questionnaire (or 16PF) is a personality measure that is most commonly used in India. It is available in many regional languages also. This personality questionnaire was developed over several decades of research by Raymond B. Cattell and his colleagues. The 16 personality factors were derived on the basis of factor analysis. The 16PF test gives scores on both the five second-order global traits which provide an overview of personality at a broader, conceptual level, as well as on the more-numerous and precise primary traits, which give a picture of the richness and complexity of each unique personality.

Eysenck Personality Questionnaire measures only three dimensions of personality namely, introversion-extroversion, neuroticism, psychoticism and lie score. This questionnaire consists of 86 items and has been commonly used in research studies in India.

The Revised NEO Personality Inventory or NEO PI-R is a personality inventory consisting of 240-item to measure Five Factors, namely, Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Additionally, the test measures six subordinate dimensions (known as ‘facets’) of each of the “FFM” personality factors. The test was developed by Paul T. Costa, Jr. and Robert R. McCrae for use with adult men and women above 17 years of age, without overt psychopathology. There is a short version, the NEO-Five Factor Inventory (NEO-FFI), that has 60 items (12 items per domain). The NEO-PI is widely used tool in India (Hindi version is also available. As compared to 16 PF test, it has more applications in clinical practice and in research.

Assessment of Alcoholism and Substance Abuse CAGE questionnaire or The CAGE questionnaire has become one of the most widely used screening devices for alcoholism. It derives its name as an acronym, for the following four questions that are asked of patients:

Have you ever felt you ought to CUT DOWN on your drinking?

Have people ANNOYED you by criticizing your drinking?

Have you ever felt bad or GUILTY about your drinking?

Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (EYE OPENER)?

Michigan Alcoholism Screening Test or MAST (Selzer 1971) is a widely used 25-items, true/ false questionnaire that contains questions about alcohol consumption and
consequences of alcohol use. The test can be administered either as a self-report questionnaire or as a structured interview. The items are differentially weighted, resulting in a summary score that ranges from 0 to 50. Although different cut-off scores for identifying alcoholism have been recommended, these scores generally range between 5 (the original cut-off) and 7, with higher scores reflecting greater impairment and a higher likelihood of significant alcoholism.

**Drug Abuse Screening Test or DAST** (Skinner 1982) is a 28-item, true/false self-administered questionnaire that contains questions about the extent and consequences of substance use. The items were selected to parallel items from the MAST. Unlike the standard scoring of the MAST, each DAST item is equally weighted so that summary scores range from 0 to 28. Skinner (1982) emphasized that the DAST score is best conceptualized as a quantitative index of substance abuse problems.

**Alcohol Dependence Scale or ADS** (Skinner and Horn, 1984; Skinner and Allen, 1982) was designed to provide a brief measure of the extent to which alcohol use has progressed from psychological involvement to the point of impaired control over drinking. The scale is patterned after the concept of the alcohol dependence syndrome described in a World Health Organization (WHO) Task Force Report, which portrays alcohol dependence as existing in degrees rather than as an all-or-none phenomenon. The ADS consists of 25 multiple-choice items, pertaining directly to alcohol use and its consequences. The scores range between 0 and 47.

### 3.4.2.3 Projective Tests

These tests are based on the projective hypothesis derived from Freud's psychoanalytic theory. The basic idea is that the test taker responds to a relatively unstructured stimuli and much of meaning to the responses comes from within the person. Thereby, revealing the hidden aspects of the personality. It is a prolonged, intensive and extensive assessment of that individual's personality. It is from these responses that deductions are made about the personality dynamics including underlying conflicts and ego defenses.

a) **The Rorschach Inkblot Technique** was developed by Herman Rorschach (1921/1941). He produced a set of 10 inkblots - 5 are black and white, 2 grey and red and 3 multi-coloured. These are on separate cards. Subjects are presented with one card at a time and asked question as ‘what might this be?’ or ‘what does this remind you of?’ After writing down the first response the tester goes back through each response asking for more details. The first phase of the test is called the free-association phase, and the second is called the inquiry. Scoring combines objective and subjective procedures looking into the area of the stimulus, and other properties of the blot as form, content etc. Psychological tests help in digging out this information from both conscious, as well as sub conscious level, systematically.

b) **Thematic Apperception Test** was taken by Christina Morgan & Henry Murray (1938) in developing TAT. It is based on Murray's theory of needs, which come-up in the stories given by the patient. The Indian adaptation of this test is available. A set of 10 cards is selected (Fig. 18.9). To guide story production, tester instructs while giving a picture, that based on the picture a story has to be made by incorporating who all are in the picture, what had happened before, what is going to happen and what are the people involved thinking and feeling. Trained psychologists pick up themes coming out from each story and thereby make personality inferences.
3.4.2.4 Semi Projective Test

While the projective tests are unstructured, semi projective tests are partly structured, like there would be completion of sentence, story, or word association.

Sentence Completion Test (SCT) Responses on this test are often most helpful in establishing level of confidence regarding predictions of overt behaviour. The SCT is designed to tap the patient’s, conscious associations to areas like self, relationship with father, mother, opposite sex and superiors. It is composed of series of sentence stems, such as, “I like” “Sometimes I wish ”, which patients are asked to complete in their own words. The SCT usually elicits information that the patient is quite willing to give. The level of inference is usually less than in the Rorschach Test or TAT interpretations.

3.4.2.5 Innovative Approaches to Assessment

Computer softwares are being developed to assess neuro cognitive functioning, attention, executive functions, impulse control behaviours. These are at the moment very expensive so are not commonly used in India. Continuous Performance Test is well known test to assess attention- concentration on computer.

Check Your Progress 2

Note: i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) List different types of psychological tests to assess personality.

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3.5 Psychological Assessment of Children

Childhood disturbances are rarely as clearcut as adult psychiatric disorders, and there are often too many explanations for child’s problem behaviours in current family interactions, or in child’s school experiences. Modern day psychological assessment is likely to contribute to build a plan of management. There may be a need for assessing the cognitive functioning and academic achievements. It may be important to study the personality characteristics and the way the child is perceived by others. Or it may be valuable to get a family account of present symptoms and the problem within. Keeping the above in view we may use one or a combination of tests depending on the problem as mentioned below.

Intellectual Assessment

In infant’s developmental schedules are used to assess intelligence. Adaptive behaviour is considered very important in young children.

1) Vineland Social Maturity Scale: This test was developed to assess the individual’s developmental level. It is most often used on mentally retarded children, extending within an age range from birth to 25 years. The test gives a pattern analysis on eight different areas, such as self-help in eating, dressing, socialization, etc. This
test is also useful in screening and in assessment for uncooperative children. This scale has been standardised for our population.

2) **Wechsler Intelligence Scale for Children-R (WISC-R):** This test is similar in its format to WIAS, and its Indian standardised version is known as Malin’s Intelligence Scale for Indian school children. The sub tests are classified into verbal and performance scales yielding verbal, performance and full scale IQs. There is another test for children in the age range of two and half years to six years, Wechsler Preschool and Primary Scale of Intelligence (WPPSI).

3) **Coloured Progressive Matrices (CPM):** This test is used for younger children within an age range of 5 1/2 to 11 1/2 years. It is a non-verbal test with percentile norms by half years and supplementary norms for mentally retarded children. It is a culture fair test with simple, easy to comprehend instructions. It consists of 36 items divided over 3 subtests reflecting on abstract and reasoning abilities.

**Assessment of Specific Learning Disability (SLD):** A battery of tests have been developed at NIMHANS, to assess children having specific learning disability. This consists of the following sub-tests:


There are some more tests also to assess SLD like Grades, and AIIMS Neuropsychological Battery for children.

**Personality Tests**

Some of the commonly used personality tests for children are as follows:

1) **Children Apperception Test (CAT):** Projective tests are commonly used with children to assess their needs, conflicts and general personality. CAT is designed for children in the age range of 3 to 10 years. The CAT cards have pictures of animals, more like in human situations relating to problems of feeding, sibling rivalry, parent-child relations, aggression, toilet-training and other childhood experiences. The Indian version of CAT is also available. CAT supplementary cards depict different situations like classroom, interaction in the playground, and reactions to illness.

2) **Raven’s Controlled Projection Test (RCPT):** This projective test can be administered in the age range of 6 1/2 and 12 1/2 years. The child is asked to draw whatever he wishes to and construct a story for which a set of questions are asked by the examiner. The child’s concerns over lies, worries, dreams, friendships etc., are elicited, which provides a better understanding of the child.

3) **Draw-A-Person Test:** This test (Goodenough) assesses both intelligence and the personality characteristics. The child is given two sheets of paper, and asked to draw a child followed by a figure of opposite sex to the one drawn. A set inquiry is carried out by putting up questions on ambition, family, friends, attitude toward sex and marriage etc., bringing out hidden meanings followed by psychoanalytic interpretation.

4) **House-Tree-Person Test:** This test is used for children of 5 years age and older. The child is required to draw a house, a tree and a person in a sequence. The examiner takes notes on the spontaneous comments and the behaviour during the drawing, followed by a planned interview, eliciting details, clarification and material
with symbolic significance. This is very simple but provides lots of information about the child and his interaction with his parents.

5) **Picture-Frustration Test:** This test elicits child’s reactions to frustrating situations. The Indian test developed by Udai Pareek has 24 pictures and the child has to write his response to the situation in the box. Frustrations could be directed inwardly or to the external world.

### Check Your Progress 3

**Note:**

i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) List different tests used to assess cognitive functions in children.

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### 3.6 ETHICAL ASPECTS OF PSYCHOLOGICAL TESTING

To use psychological tests, a professional has to adhere to certain ethical guidelines and standards. In brief, they are as follows:

- The test should be administered by the person who has received proper training in test administration, scoring and interpretation.
- Informed Consent should be obtained from the patient or parents of the child under 12 years of age, to administer psychological tests.
- The test administrator should be familiar with a test’s research basis, use tests only in contexts in which they have been shown to be reliable and valid, and not go beyond their expertise or the test’s empirically demonstrated applicability.
- Test should have been purchased, not photocopied. For research purposes, some authors give permission to use, free of charges.
- The test finding should be confidential, only known to the patient and his treating psychiatrist.
- All the principles of ethics apply to psychological testing also.

### Check Your Progress 4

**Note:**

i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) What ethical aspects are important while administering a psychological test?

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3.7 PROBLEMS IN ADMINISTRATION OF PSYCHOLOGICAL TESTS

- **Confidentiality:** Psychological tests and other assessment procedures often elicit very personal information. Under some circumstances, professional mental health personnel are obliged to reveal this information to the legal authorities. So they may be abridged.

- **Issue of Cultural Bias**

Most tests have been designed and have been standardized on middle or upper socioeconomic groups. Persons from other backgrounds might be handicapped in taking such tests and their scores would not be a fair measure of their potential. A great deal of effort has gone into attempts to develop tests of intelligence and other abilities that are “culture fair”.

- **Motivation of the patient**

Many times the test responses are influenced by the motivation of the patient, in medico-legal cases the motivation is different person may not respond to show he does not know faking of responses is possible if the test is administered by untrained person.

3.8 LET US SUM UP

Psychological tests are standardised measures of behaviour. The most common psychological tests are those, which assess intelligence or personality. Intelligence is commonly assessed on Wechsler Adult Intelligence Scale. Rating scales, questionnaires and protective tests, such as Rorschach Inkblot test, and TAT, can assess personality. There are different psychological tests for children. Of late Standardized Interview Schedules are being used more often. There has been tremendous growth in rating scales especially for measurement of psychopathology. Similarly, as newer diagnostic classification systems are introduced, application of personality types is being applied to various medical conditions, and many new questionnaires are developed.

As in the case of interviews, the use of rating scales in clinical observation helps not only to organize information but also to encourage reliability and objectivity. That is, the formal structure of the scale is likely to keep unwarranted observer inferences to a minimum. The test findings provide valuable information about patient’s current psychological functioning and his premorbid level of functioning. It provides the baseline on which intervention programmes can be evaluated and outcome can be objectively measured. The test finding can also help in deciding type of intervention useful to a given patient, e.g., patient having psycho-social problems, poor social skills, poor decision making, would benefit more from psychological intervention. Testing is time consuming thus a judicious and focused assessment should be done for cost effectiveness.
3.9 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Situations where psychological assessment is required are like for diagnosis, assessment of premorbid and present level of functioning, to elicit causes of maladaptive behaviour, treatment planning, research and planning of rehabilitation.

Check Your Progress 2

1) The important measures to assess personality are 16 P.F., Eysenck Personality Questionnaire, NEO-P1-R, SCT, Rorschach and TAT.

Check Your Progress 3

1) Vineland Maturity Scale, WISC-R and Coloured Progress Matrices are few tests used to assess cognitive functions in children.

Check Your Progress 4

1) The important ethical aspects that have to be considered while administering a psychological test are as follows:
   i) The test should be administered by a competent person.
   ii) Informed consent should be taken from the patient or parents of the child under 12 years of age.
   iii) Tests should be reliable and valid and should be applicable for the client.
   iv) Tests should be in original (purchased, and not photocopied).
   v) Findings of the test should be kept confidential.

3.10 UNIT END QUESTIONS

1) Discuss the objectives and types of psychological assessment.
2) What are the various ways for psychological assessment of children?

3.11 REFERENCES AND SUGGESTED READINGS


UNIT 4 ROLE OF PHYSICAL INVESTIGATION AND ASSESSMENT IN MENTAL DISORDER

Structure

4.1 Introduction

4.2 Learning Objectives

4.3 Why Physical Investigations?

4.4 Which Physical Investigations?
   4.4.1 Routine Tests
      4.4.1.1 Routine Tests as Health Screen
      4.4.1.2 Routine Tests for Monitoring Adverse Effects
      4.4.1.3 Electrocardiogram (ECG)
      4.4.1.4 Pregnancy Test
   4.4.2 Special Tests
      4.4.2.1 Routine Blood Tests
      4.4.2.2 Thyroid Function Tests (TFT)
      4.4.2.3 Nutritional Deficiency-Vitamin Levels
      4.4.2.4 Blood Tests for Sexually Transmitted Disease
      4.4.2.5 Electroencephalogram (EEG)
      4.4.2.6 Imaging Tests for Persons with Mental Illness
         4.4.2.6.1 Chest-X-Ray
         4.4.2.6.2 Ultrasound Abdomen
         4.4.2.6.3 Computerised Tomography (CT) of Head
         4.4.2.6.4 Magnetic Resonance Imaging (MRI) Brain
         4.4.2.6.5 Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET)
         4.4.2.6.6 To Screen Substance Abuse: Breath Analyzer and Urine Screen
         4.4.2.6.7 To Monitor Drug Levels in Blood

4.5 Let Us Sum Up

4.6 Glossary

4.7 Answers to Check Your Progress Exercises

4.8 Unit End Questions

4.9 References and Further Readings

4.1 INTRODUCTION

In previous Units, we have already learned that psychiatric illnesses are particular set up of symptoms or signs that occur together. These mental illnesses can result either from abnormality of thinking which usually manifest in the form of irrelevant or abnormal speech, or abnormality of behaviour or emotions. In most cases, it is a combination of all the above to varying degree. We also learned about importance of history taking and mental status examination while interviewing aid in collecting clinical evidence that help in reaching a diagnosis. We learned that it is very important to know the person’s nature before the onset of abnormal behaviour, also known as premorbid personality or
premorbid temperament. In absence of laboratory test that will confirm or refute a psychiatric diagnosis, we usually go for psychological assessment, as discussed in the previous Unit. This is particularly important in cases where there is doubt about presence of mental illness or about type of mental illness. Latter is important for psychiatrist as this will guide what treatment to be followed.

### 4.2 LEARNING OBJECTIVES

After studying this Unit, you will be able to:

- Understand broader principles of physical investigations in mentally ill persons;
- Know what all physical or laboratory tests can be required in a person with mental illness;
- Know what are routine laboratory tests that are done as part of health screen in persons with mental illness; and
- Know what are special tests that are done as part of physical investigation in persons with mental illness.

### 4.3 WHY PHYSICAL INVESTIGATIONS?

Broadly speaking, we all agree that mental health and physical health are interlinked. There is increased incidence in those having chronic medical illnesses to have mental illness and similarly mentally ill are at increased risk of developing medical illnesses. Studies have shown that physical health of mentally ill when neglected is associated with increased morbidity (sickness or illness) and mortality (death). This neglect happens due to variety of reasons besides poor economic and social support: 1) patients with mental illness may not voice their physical health complaints appropriately, 2) mentally ill persons may not follow with health related advice given by physicians, 3) sometimes mental illness treatment is given too much importance neglecting the physical health, 4) psychiatric medication induced side effects that are not detected early, 5) lack of accessible specialities of health services in the vicinity, and 5) lack of affordability of various health services.

### Check Your Progress 1

**Note:**

i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) Mention the causes for increased morbidity and mortality in persons with chronic mental illnesses.

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By this time, we already know the broader causes for mental illness. Mental illness has biological, psychological and social components in its aetiology. According to this, every mental illness has underlying biological changes in body but these can be too miniscule and too non-specific to be detected or attributed as causing the mental illness in routine
physical tests in clinical practice. Such mental illnesses are called as functional just to differentiate them from organic, or substance induced. Here, term substance is used to mean ‘drug that can be abused, which can produce dependence and not prescribed by any physician’. Examples for substances include: alcohol, cannabis, opioids, etc.

When a person shows symptoms of mental illness it could be due to organic factors, could be due to substance abuse, could be due to medical conditions or sometimes due to medications used for treatment of medical conditions. When these all conditions are ruled out, we label the psychiatric disorder as functional. This is the main reason why psychiatrist will ask about medical conditions already diagnosed, about any treatment already received for the same and certain questions to rule out organicity, questions about substance use particularly on last use of substance.

**Box 1**

A 45 year old, engineer developed stroke and was admitted with paralysis of left side of the body. When he was improving in the hospital he started showing symptoms suggestive of mania. He did not have any mental illness in the past, and there was negative history of mental illness in the family. He used to smoke regularly before this stroke developed. On examination he was orientated, conscious, with weakness of left side of the body. Physical investigations were within normal limits, except for CT scan of the brain- showing white opacity in the right frontal region, suggestive of bleeding in the brain matter.

There are literature support of such cases developing mania after bleeding in the right half of the brain and the time sequence developing mania of following stroke, absence of past or family history of mental illness, in this person all point towards organic mania.

Implication of this diagnosis: mania may persist as long as damage to that part persists, this person may be sensitive to medication side effects hence require to be started with lower doses of medication. This shows importance of taking clinical history and corroborating with appropriate physical investigations.

Organic versus functional mental illness concept is important as former states that there is identifiable cause leading to manifestation of mental illness and if that organic factor can be identified and appropriately managed, then symptoms of mental illness disappear or respond better to psychiatric medications. If there is no previous personal or family history of mental illness prior to this and organic factor found has been attributed with onset, then it strengthens case for organic cause of mental illness. If organic factor could not be corrected or removed, it will decrease the chance of mental illness responding to psychiatric medications and sometimes persons tend to have increased sensitivity to side effects requiring use of lower doses of psychiatric medications in them.

Psychiatrist, being medical professional takes into account age, vital parameters like pulse, blood pressure, physical and neurological bedside examination to detect any abnormality to guide his management plan of the mental illness. Psychiatrist is the better person to decide which types of tests are required in a particular case. We will discuss now various tests and broad principles underlying requirement for physical or biological or laboratory investigations in persons diagnosed with mental illness.

### 4.4 WHICH PHYSICAL INVESTIGATIONS?

A range of medical and neurological conditions may present initially to the psychiatrist. These conditions include multiple sclerosis, Parkinson’s disease, dementia of the
Alzheimer’s type, Huntington’s disease, dementia caused by human immunodeficiency virus (HIV) disease, and temporal lobe epilepsy. Any suspected medical or neurological condition should be thoroughly evaluated with appropriate laboratory tests and consultation.

Following is simplified arrangement of various tests that are done in mentally ill persons. Not all tests are required in each person. Appropriate selection of tests is the key in good utilization of resources. Remember that there is no laboratory or physical tests in psychiatry that can confirm or rule out diagnoses such as schizophrenia, bipolar disorder, and depressive disorder.

4.4.1 Routine Tests

These are tests that are usually done as part of health screen in any person who has come for health check up. Main purposes of getting these tests is to:

1) Screen for concurrent disease that might be existing along with mental illness
2) Rule out organicity, and
3) Establish baseline values of functions to be monitored (to early detection side effects on body organs of certain drugs.

4.4.1.1 Routine Tests as Health Screen

Most persons in India do not visit doctors for health check up unless they have a problem. When a person with mental illness makes his first contact with clinician, this opportunity be used for physical health screening. Blood tests which are done routinely as part of health screen can are usually done in such case. These include haemoglobin, complete blood count, differential blood count, renal and liver function tests, fasting blood sugar. It is also better to record height and weight of the person. Some consider urine sample testing also as routine testing. This helps to establish baseline values of these tests so that we can compare any future alterations in these and detect abnormalities by chance so that they can be corrected. Ideally such tests are done before starting any medications.

Some persons may be at risk for developing obesity, blood lipid abnormality, hypertension and diabetes either due to their family history, or due to their sedentary lifestyle. These risks tend to be exacerbated by certain antipsychotics and mood stabilizing medications in the long run as these medications may be required for long term even after improvement of mental illness. These can be prevented by prior knowledge about these illnesses in the family and knowing the risk profile of persons with mental illness by way of dietary and lifestyle change advice.

During such routine investigations many people found as having medical illnesses can be advised to take treatment for those conditions along with that of mental illness. All medications given for treatment of mental illness are called psychotropics and these can cause alteration in blood parameters like haemoglobin level, blood count, blood sugar, lipid profile besides weight change. These alterations can be sudden requiring immediate attention or can be gradual, thus acting as risk factors for developing cardiovascular disease in long turn. This all increases morbidity and mortality in such persons and these can be prevented by routine blood tests and appropriate health advice.

4.4.1.2 Routine Tests for Monitoring Adverse Effects

Sometimes person is already having medical condition for which he is on treatment and develops symptoms of mental illness. In such cases, psychiatrist would like to have routine blood tests and some specific tests to know the status of underlying medical condition so that these can also be monitored and this helps psychiatrist to choose
appropriate medication that is least likely to influence already deranged blood parameters or underlying medical condition. For example, a person with known hypertension, diabetes and dyslipidemia on treatment from a physician comes for treatment of newly developed mental illness, then we would like to know what is the status of these parameters in the person currently irrespective of whether he is taking medications for these or not. Persons on antipsychotics that are likely to suppress blood cell formation may require frequent blood tests to know complete and differential blood count.

4.4.1.3 Electrocardiogram (ECG)

Regularity of heart activity can be checked by electrocardiography (ECG). All persons who are likely to be treated with psychotropics routinely are advised to undergo this test. Many psychotropics alter heart rhythm at higher doses, and this risk is more even with lower doses if already there are heart rate and rhythm abnormalities in the ECG at baseline before starting psychotropics. Persons with previous heart attacks, those with regular tobacco users and those are selected for electroconvulsive therapy (ECT) need to undergo ECG. ECG is also advised in persons with suspected drug overdose to detect status of heart activity.

4.4.1.4 Pregnancy Test

All woman of child bearing age, unless they are very sure of their regular periods and not reporting missed periods, or following contraceptive methods will require pregnancy test routinely. No psychotropic is safe during pregnancy in respect to its influence on the foetus and pregnancy is one of cause for amenorrhoea, and many antipsychotic also tend to cause amenorrhoea. To avoid these clinical confusion it is better to elicit this history and if it is doubtful then urine based simple pregnancy tests can be done or referral to obstetric and gynaecologist can be made before starting medications.

Some women already on treatment for mental illness become pregnant and reveal it to their psychiatrist. In this condition, it poses dilemma whether to stop psychotropics and take risk reoccurrence of mental illness or continue to prescribe the psychotropics which may have already posed risk to developing foetus in the womb. Major bad influence of psychotropics on foetus like, organ malformation (teratogenicity) is well known. Only for few psychotropics and for most other psychotropics it is not known as to what good or bad influence they can have on the foetus and what are its influences in the long term if delivery of newborn exposed to such psychotropics in the uterus does occur. Such data is lacking because of lack of studies and moreover most medications during research trial never include pregnant women to know their safety on ethical grounds. In this condition, they need to reveal and be under supervision of obstetric and gynaecologist. Decision to terminate or continue with current pregnancy is made by the woman in collaboration with psychiatrist and the obstetrician.

**Check Your Progress 2**

**Note:**

i) Read the following question carefully and answer in the space provided below.

ii) Check your answer with that provided at the end of this unit.

1) Mention routine tests and their purposes in persons with mental illness.

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4.4.2 Special Tests

These are done based on clinical indications and mainly to rule out organic factors underlying mental illness, to find adverse effect on certain medications, to screen for substance abuse. Mental illness due to organic cause, means that there is clear identifiable cause exist which is directly or indirectly interfering with current brain functioning and which if removed helps in improvement of the manifest mental illness. Those with first time showing psychiatric symptoms, older age at onset of psychiatric symptoms, absence of past personal or family history of psychiatric illness and absence of substance abuse, all point towards organicity and following tests may help in this.

4.4.2.1 Routine Blood Tests

As mentioned above, there may show abnormalities in blood sugar, serum electrolytes or in other parameters. For example, liver and renal function abnormalities as in cases of renal failure or liver failure may present with abnormal behaviour due to interfering with brain functioning conditions called encephalopathy.

**Box 2**

Some neurological conditions that may manifest with mental illness symptoms

- Cerebrovascular disorders (haemorrhage, infarction)
- Head trauma (concussion, posttraumatic hematoma)
- Epilepsy (especially complex partial seizures)
- Brain tumours
- Parkinson’s disease
- Multiple sclerosis
- Dementia
- Migraine
- Neurosyphilis
- Viral meningitis and encephalitis (e.g., herpes simplex)
- Brain abscess

4.4.2.2 Thyroid Function Tests (TFT)

Thyroid abnormality can be detected on clinical examination. It is clinical experience of many psychiatrists that hyperthyroidism may present like anxiety disorders, psychosis, or mania, and hypothyroidism may present like, dysthyemia and depression. Thyroid function tests are therefore indicated in cases of new onset of a mental illness. In this connection blood tests of thyroid hormones (T3, T4 and TSH) are helpful and if found abnormal correction of these helps in better response of mental illness to psychotropics.

Medication like lithium, given as mood stabilizer for long term in persons diagnosed with bipolar disorder may cause thyroid dysfunction. So such persons require a baseline TFT before starting lithium to rule out already existing thyroid dysfunction and later at regular interval testing to identify early any thyroid dysfunction and alter treatment appropriately. Other tests like, Thyrotropin-Releasing Hormone (TRH) stimulation test and Dexamethasone-Suppression Test are used in laboratory diagnosis of depressive disorders and to predict response to treatment. However, these tests are not specific and results vary widely, hence not used in clinical practice.
4.4.2.3 Nutritional Deficiency-Vitamin Levels

Some psychiatric illnesses have been found to be associated with nutritional deficiencies mainly vitamins. Whenever there are behavioural manifestations along with neurological signs or with memory problems, blood levels of vitamin B12, thiamine, niacin and folic acid are tested. If these levels are low then identifying the causes for their low level and correcting them helps in better response to psychotropics. Increasing age, gastrointestinal absorption problems, poor dietary intake and chronic alcoholism could be some of the common causes for low levels of vitamins in such cases.

4.4.2.4 Blood Tests for Sexually Transmitted Disease

When a person presents with mental illness and also has unexplained significant weight loss, episodes of fever should raise suspicion of infections. Tests for HIV, Syphilis and Hepatitis B and C virus markers can be done in persons with high risk sexual behaviour, or those with history of unsafe injecting drug use currently presenting with symptoms of mental illness can be tested for these with their consent. Sometimes, HIV-infection of brain may present as case of dementia.

4.4.2.5 Electroencephalogram (EEG)

EEG is a recording of a summed up electrical activity of the superficial layers of the brain. Whenever there is clinical suspicion of epilepsy either generalized or partial complex epilepsy, EEG helps in identifying abnormality and sometimes localizing part of the brain from which abnormal activity is coming. When person is not having active convulsions, still there can be abnormal electrical activity that can be recorded by this technique, which helps in the diagnosis of seizure. This is done by way of placing electrical activity recording conductors over specific areas of the head. It can be recorded during awake state and during sleep. Patient has to be co-operative for this test. Recorded activity needs specially trained person to read it and interpret it. Some deep seated abnormal activity of the brain may not get detected. Video-EEG is an advanced version of this where a person’s brain electrical activity is continuously monitored in a room along with video recording of the person. Both his behaviour and same time electrical activity are recorded simultaneously and helps in correlating both. This is particularly useful when seizures are not generalized, not typical in occurrence and in cases of suspected pseudo-seizures (dissociative convulsions). Partial complex seizures manifest with abnormal episodic behaviour resembling mental illness. There is no loss of consciousness, no sudden fall, no incontinence and no tongue bite as seen in a typical generalized seizure, commonly known as convulsions or fits.

If the person is already diagnosed case of seizure disorder and is on antiepileptic medications, EEG helps in knowing current status of the seizure control even when convulsions are not evident clinically. In a person having family history of seizure, and who are about to be started on antipsychotics that are likely to induce seizure at higher doses, and before a planned ECT, usually EEG is requested. Besides suspected cases of epilepsy and to rule out organic factors for mental illness, EEG is also used in evaluating sleep disorders.

4.4.2.6 Imaging Tests for Persons with Mental Illness

4.4.2.6.1 Chest-X-ray

This is not done routinely, only when a person is over 45 years, chronic smokers, or selected for electroconvulsive therapy or as part of medical evaluation for fever or unexplained weight loss. Women of child bearing age are usually not exposed to x-ray tests.
4.4.2.6.2 Ultrasound Abdomen

In those persons who have used alcohol for many years and on physical examination and in laboratory tests for liver function show evidence of liver damage then it is advised.

4.4.2.6.3 Computerised Tomography (CT) of Head

Computerized Tomography of brain is nothing but x-ray of the head taken repeatedly and constructed by computer to give two dimensional images of the head. Hence, there is risk of radiation exposure as it happens in case of taking chest-x-ray. It is less costly, less time consuming and available in most cities when compared to MRI brain. This helps in identifying trauma to skull bones that cover the brain, any space occupying lesions like tumours, blood or any abnormal calcium deposits in the brain matter. Usually, any trauma that leads to fracture of the skull bone also leads to damage to underlying brain. Whenever there is sudden onset altered sensorium, following blow to head, or specific neurological abnormalities along with severe headache in person with known hypertension may be candidate for CT brain. In persons who are presenting for the first time with psychiatric illness, with atypical symptoms, not responding to usual treatment with psychotropics even after weeks to months of adequate doses with full compliance, or who show appearance of side effects at lower doses of psychotropics and there is absence of past personal or family history of psychiatric illness, are considered for CT brain as a work up to rule out organicity. Even with all above points taken into consideration, the yield of CT brain to deliver positive evidence of organicity is very less. Hence, judicious use of imaging tests is to be used it is not replacement for clinical physical and mental status examination.

4.4.2.6.4 Magnetic Resonance Imaging (MRI) Brain

This much advanced imaging technique of the brain that does not involve radiation. Takes longer time to scan the brain and to get brain image person has to lie down calm in big machine. This is sometime very frightening for even healthy persons. This machine operates in artificially created strong magnetic field, it is usually kept in a room separated from other areas and persons before entering the machine should make sure that they do not have any kind of metal with them or inside their body like artificial cardiac pacemakers, metallic bone nails or fixatives. Some suspicious findings in CT scan of the head can be more clearly identified in MRI brain. Apart from those that are detected in CT scan of the head, MRI brain helps in identifying abnormalities of nerve fibres, locating abnormalities to specific areas of the brain are much better. Another advantage is visualizing blood vessels using contrast materials to enhance their appearance and visualizing spinal cord, as latter is difficult to be seen in CT scan due to bones covering the entire spinal cord.

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<th>Box-3</th>
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<tbody>
<tr>
<td><strong>Some medical conditions that may manifest with psychiatric symptoms</strong></td>
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<tr>
<td>1) Endocrine</td>
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<tr>
<td>Hypothyroidism</td>
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<tr>
<td>Hyperthyroidism</td>
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<tr>
<td>Hypoglycemia</td>
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<tr>
<td>2) Metabolic and systemic</td>
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<tr>
<td>Fluid and electrolyte disturbances</td>
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</table>
Hepatic encephalopathy
Uremia
Hepatolenticular degeneration (Wilson’s disease)

3) Toxic
Intoxication or withdrawal associated with drug or alcohol abuse
Adverse effects of prescribed and over-the-counter medications

4) Nutritional
Vitamin B\textsubscript{12} deficiency (pernicious anemia)
Nicotinic acid deficiency (pellagra)
Folate deficiency (megaloblastic anemia)
Thiamine deficiency (Wernicke-Korsakoff syndrome)

5) Infections
Acquired immunodeficiency syndrome (AIDS)
Viral hepatitis
Tuberculosis
Systemic bacterial infections (especially pneumonia)

6) Autoimmune
Systemic lupus erythematosus

Check Your Progress 3

Note:  
i) Read the following question carefully and answer in the space provided below.
ii) Check your answer with that provided at the end of this unit.

1) What does CT scan head/MRI brain indicate in persons with mental illness?

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4.4.2.6.5 Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET)

SPECT Brain and PET Brain are newer techniques of imaging brain activity in real time, that is behaviour or psychiatric symptoms can be correlated with brain activity in specific areas of the brain as and when they occur. These techniques use short lasting radioactive tracer material injected in the body, which gets collected in the brain cells and this can be recorded by radioactivity capturing camera. It works on the principle that regions of brain showing higher activity will have relatively more blood flow and subsequently will show more radioactivity. This way entire brain surface flow and pattern
of blood circulation can be generated with colour coded indicators through computer software. It has been found to be useful for detecting locus of seizure activity in the brain. Currently it is used mainly in research field in psychiatry.

4.4.2.6.6 To Screen Substance Abuse: Breath Analyzer and Urine Screen

These tests are not done routinely. Whenever substance use is suspected but can not be relied on the person either due to uncooperativeness, due to altered sensorium or due to his psychotic state, these tests are done. For alcohol use, breath will give hint if person is intoxicated, and some use breath analyzer to detect alcohol in breath and rarely blood alcohol concentration is done especially for legal purposes. Most other substance when used do get eliminated from various mechanisms and one route they get eliminated is through excretion in urine. By testing urine for different commonly abused substances prevalent in locality from which person has come, we will be able to tell if the person has used any such substance in the preceding few days. However, cannabis and benzodiazepine on chronic use continue to be detected in urine testing even many weeks after their last consumption.

In persons when they are about to be started on aversive or antagonist medication for a substance as part of de-addiction clinic treatment urine test can be done to confirm that body is free of substance in order to avoid reaction with antagonist. Persons on regular treatment in de-addiction clinics can be asked to give urine sample for testing to detect any intermittent use of substance as an objective test. This stands as testimony to person’s self-reported abstinence from the drugs of abuse. Urine drug screening serves mainly three purposes: 1) to ensure compliance to treatment, 2) objective test for abstinence, 3) detect misuse of other drugs of abuse 4) to detect early relapse to drugs of abuse for which person was taking treatment.

4.4.2.6.7 To Monitor Drug Levels in Blood

Certain medication given for treatment of mental illness have to be maintained at particular range of their blood levels, below which it is not effective and above which its side effects are more. One such drug is lithium. Enough oral dose of lithium is given so that it maintains required blood level in the body. This can be checked first time from morning blood sample taken while on empty stomach, after 5 days of consistent same dose of lithium use and can be repeated every few months to ensure its blood level remains in the required range. This can be used as indirect tool for assessing compliance and in cases where toxicity symptoms appear or person goes into altered sensorium due to any cause; lithium level estimation helps to rule out lithium toxicity as it could be one of the cause for such condition. Lithium toxicity can happen either due to dehydration, or due to drug interactions, or by concurrent medical illness or by accidental overdosing or by intentional overdosing by the person.

Some persons with usual dose of medications either do not show improvement in symptoms or show more side effects than usually seen with other persons taking same amount of medications. If drug interaction is ruled out, then serum level of the same drug will help us detect their level and if compliance is not doubted this could be due to high or low metabolizing conditions of the person’s body. Routine use of drug level monitoring of antidepressants, and antipsychotics is not done. Clinical examination and corroborative information from family members or friends is enough in most cases to know whether certain drugs are causing too much side effects or being used by patient higher than advised doses, or person is not showing any response due to poor compliance to medications regimen.
4.5 LET US SUM UP

Some physical tests are required routinely as part of general health check-up and these also act as baseline values to monitor any adverse effect if they develop while on medications. Same routine tests can be valuable in ruling out organicity of mental illness. A pregnancy test in woman is necessary to avoid unwanted exposure to psychiatric medications. Thyroid function test is special test but done routinely in elderly, and in women coming for first time with mood disorders or psychotic illness and in those not responding to mood stabilizers. Whenever substance use history is not elicitable but suspicion exist as one of the contributory for current mental illness symptoms then urine screening for drugs of abuse can be done. ECG, EEG and imaging techniques are used as health screen and as part of specific requirement based on the person’s clinical profile.

Particular types of physical test requirement are also governed by accessibility, affordability, disadvantages, and patient’s choice besides specific indications. All said and done, no physical test is going to confirm or refute a diagnosis of mental illness. Clinical examination and patient observation are must components to proper health care delivery to persons with mental illness.

4.6 GLOSSARY

**Substance**: This is an alternate name to group of drugs that are likely to be used for non-medical purposes, likely to cause dependence on them. These are commonly known in lay term as ‘drugs’. To avoid confusion when these are medically prescribed and used as ‘drugs’ persons on their choice, we may prefer to call these as substances of abuse.

**Alcohol**: It is a generic name for ethanol. Depending various concentration of ethanol and other additives it is available with different names-beer, wine, whisky, brandy, rum etc.

**Cannabis**: It is pharmacological agent that is present in bhang, ganja or hashis, all derived from the same plant.

**Opioids**: All pharmacological agents that on opioid receptors of brain are opioids. These can be heroin, codeine, morphine and pentazocine. Many of them have medical uses mainly in control of severe pain but are also abused by some.

**Psychotropics**: Any chemical that acts through mainly altering brain neurotransmission or brain chemicals are called broadly called as psychotropics. These drugs alter thinking, emotions and perceptions. These group includes all psychiatric medications and also all substance of abuse. In this Unit it is used only to mean psychiatric medications. Psychiatric medications are devoid of causing euphoria or causing dependence, but many are required to be continued on long term just to avoid reoccurrence of symptoms of mental illness.

**Antipsychotics**: Psychiatric medications given for treatment of psychotic symptoms.

**Mood stabilizers**: These psychiatric medications which are supposed to prevent episodes of depression or mania in persons diagnosed with bipolar affective disorder

**Complete blood count**: Number of white blood cells, red blood cells and platelets per cubic mm of blood. These are main components of blood count test.

**Differential blood count**: Number and percentage of different types of white blood cells per cubic mm of blood.
Renal function tests: Functioning of kidney in routine tests is indirectly inferred from blood urea measures, electrolyte levels, serum creatinine levels in absence of clinical symptoms of kidney failure.

Liver function tests: Functioning of liver in routine tests is indirectly inferred from liver enzyme activities, and bilirubin levels and serum proteins.

Obstetrician and gynaecologist: Medical specialist who deals with pregnancy, delivery and genitourinary problems of women.

Breath analyzer: It is an equipment that detects alcohol level when breath is blow inside it from the mouth of the suspected intoxicated person. Similar equipments are used by traffic police to check breath alcohol level in drivers.

Health Screen Tests: Tests that are easy to administer and easy to pick up any abnormality in short time. Their reports need verifications as some of them may be falsely labelled as abnormal.

Relapse: Return to previous pattern of dependent drug use after a period of abstinence.

Abstinence: In relation to substance use, it means a person is totally free from use of dependent drug.

4.7 ANSWERS TO CHECK YOUR PROGRESS

EXERCISES

Check Your Progress 1

Following are some of the causes for increased morbidity and mortality in persons with mental chronic mental illnesses:

1) Increased risk of self neglect
2) Increased risk of substance abuse and dependence
3) Increased suicide risk
4) Not able to follow healthy diet and lifestyle changes
5) Increased risk of developing metabolic abnormalities secondary to medications
6) Difficulty in communicating physical health complaints
7) Difficulty in accessing and affording various health services

Check Your Progress 2

Following are routine physical tests and their purpose for a person with mental illness:

1) Routine physical tests include: Height, Weight, Pulse and BP
2) Routine blood tests include: Haemoglobin, Complete and differential blood count
3) Renal and liver function tests
4) Fasting blood sugar
5) Pregnancy test (in woman of child bearing age)
6) Lipid profile
7) ECG
Main purposes of these routine tests:

1) To screen for coexisting medical illnesses
2) To have these as baseline values to monitor in future for any adverse effect of treatment
3) To rule out organicity

Check Your Progress 3

Following are the common indications for CT scan head/MRI Brain in person with mental illness:

1) History of significant head trauma (i.e., with extended loss of consciousness, neurological deficits or temporally related to mental status change in question).
2) Abnormal neurological findings on examination (focal neurological deficits).
3) Sudden onset of symptoms of mental illness (including mood changes and personality changes) first time after the age of 50 years.
4) History of neurological symptoms (seizures).
5) Difficulties in memory and comprehension or decline in memory (delirium or dementia of unknown cause).
6) EEG report is abnormal.
7) Possibly for treatment refractory patients.

4.8 UNIT END QUESTIONS

1) Why pregnancy test is necessary in woman of child bearing age, before starting treatment?
2) What are the implications of having diagnosis of organic mental illness?
3) Name some medical and neurological conditions that may present with symptoms of mental illness.

4.9 REFERENCES AND FURTHER READINGS

# MPC – 052

## MENTAL DISORDERS

### BLOCK 1  CLASSIFICATION OF MENTAL DISORDERS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Classification of Mental Disorders: Need, Historical Perspective and the Modern System of Classification</td>
</tr>
<tr>
<td>2</td>
<td>Schizophrenia and Other Psychotic Disorders</td>
</tr>
<tr>
<td>3</td>
<td>Mood Disorders</td>
</tr>
<tr>
<td>4</td>
<td>Neurotic Group of Disorders</td>
</tr>
<tr>
<td>5</td>
<td>Other Disorders which do not Fall in Above Categories of Psychiatric Disorders</td>
</tr>
</tbody>
</table>

### BLOCK 2  EPIDEMIOLOGY AND PREVALENCE OF MENTAL DISORDERS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Epidemiology: General Concepts, Epidemiological Methods, Epidemiology of Mental Disorders – International</td>
</tr>
<tr>
<td>2</td>
<td>Epidemiology of Mental Disorders in India</td>
</tr>
<tr>
<td>3</td>
<td>Global Burden of Mental Illness</td>
</tr>
<tr>
<td>4</td>
<td>Impact of Mental Disorders on Society</td>
</tr>
</tbody>
</table>

### BLOCK 3  CLINICAL MANIFESTATIONS, COURSE AND OUTCOME OF MENTAL DISORDERS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cognitive Disturbances</td>
</tr>
<tr>
<td>2</td>
<td>Conative Disturbances</td>
</tr>
<tr>
<td>3</td>
<td>Affective Disturbances</td>
</tr>
<tr>
<td>4</td>
<td>Course and Outcome of Mental Disorders</td>
</tr>
</tbody>
</table>

### BLOCK 4  IDENTIFICATION AND ASSESSMENT OF MENTAL DISORDERS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Techniques of Interviewing and Case History Taking</td>
</tr>
<tr>
<td>2</td>
<td>Steps in Mental Health Assessment</td>
</tr>
<tr>
<td>3</td>
<td>Psychological Assessment</td>
</tr>
<tr>
<td>4</td>
<td>Role of Physical Investigation and Assessment in Mental Disorders</td>
</tr>
</tbody>
</table>