Chapter 1

- **Diagnostic and Statistical Manual of Mental Disorders** (DSM-5)
- **International Classification of Mental and Behavioural Disorders** (ICD-10)
- **Psychological abnormality** refers to behaviour, speech or thought that impairs the ability of a person to function in a way that is generally expected of him or her in the context where the unusual functioning occurs.
- **Mental illness** is a term often used to convey the same meaning as psychological abnormality, but it implies a medical rather than psychological cause.
- **Psychological disorder** is a specific manifestation of this impairment of functioning as described by some set of criteria that have been established by a panel of experts.
- **Psychopathology** is the scientific study of psychological abnormality and the problems faced by people who suffer from such disorders.
- From a statistical view, behaviour is judged abnormal if it occurs infrequently in the population.
- How we define abnormality is culturally relative.
- Personal distress can indicate the presence of abnormal behaviour.
- The personal dysfunction viewpoint emphasizes that abnormal behaviour interferes with appropriate functioning in a particular situation or environment.
- Abnormal behaviour could be defined in terms of whether it violates societal norms and values.
- **Clinical psychologists** are initially trained in general psychology and then receive graduate training in the application of this knowledge to the understanding, diagnosis and amelioration of disorders.
- **Psychiatrists** are trained in medicine prior to doing specialized training in dealing with mental disorders. The training focuses on diagnosis and medical treatment (most often using pharmacological drugs to manage the disorder).
- **Psychiatric nurses** have received formal training in nursing before completing a specialization in psychiatric problems. These professionals typically work in hospital settings.
- **Psychiatric social workers** attend to the influence of social environment on disordered clients.
- **Occupational therapists** provide a broad range of services on rehabilitation teams and typically help clients to improve their functional performance.
- **Eugenics** was a sterilization procedure to eliminate defective genes.
- In 1928 Alberta passed a *Sexual Sterilization Act* under which individuals who were deemed mentally ill were to be involuntarily sterilized to prevent deterioration of the intellectual level of the general population. BC also passed a similar act in 1933.
- History of mental illness diagnosis & treatment:
  - In the Stone Age period trephination (cutting holes in the skull) was used to let out evil spirits and also helped with blood splinters, blood clots, migraines, skull fractures etc
  - Egyptian papyri attributed mental illness to supernatural causes and applied magic to treatment.
  - Hunter gatherer societies believed in supernatural causes.
  - Greeks took a different approach to mental illness by blaming it on natural causes and establishing temples of healing. **Hippocrates** was the first to reject the belief of supernatural causes, and did not distinguish mental diseases from physical diseases. He argued stress played a role in mental functioning as well as examining dreams to determine why a person was suffering from a mental disorder. He advocated a quiet life, vegetarian diet, healthy exercise and abstinence from alcohol (induced bleeding or vomiting was also thought to help). Vomiting and/or bleeding was thought to reduce excess "humours" (bodily fluids). Cheerfulness was caused by an excess of blood, ill temper was an excess of yellow bile, gloom was an excess of black bile and listlessness an excess of phlegm. **Plato** placed more emphasis on socio-cultural influences on thought and behaviour. He believed mentally ill people who commit crimes should not be held responsible because they didn't understand what they had done. Care at home was suggested as an appropriate treatment. **Aristotle** advocated the humane treatment of mental patients.
  - Egyptians adopted the ideas from the Greek and built sanatoriums providing pleasant and peaceful surroundings, the opportunity for interesting and calming activities, healthy diets, soothing massages and education.

- **Methodism** (a concept developed in rejection of Hippocrates theory) regarded mental illness as a disorder that resulted either from a constriction of body tissue or from a relaxation of those tissues due to exhaustion. Natural blood-letting would provide an avoidance to the disorder.
- **Aretaeus** (a Greek physician) considered emotional factors to be primary in causing mental disturbances and advocated psychological treatment methods.
- **Galen** (a Greek physician living in Rome) thought mental disorder was caused by both physical and psychological elements which could be treated by comfortable surroundings and a sympathetic listener.
- In the Arab world, the Quran reflected compassionate attitudes towards the mentally ill. They built asylums which served to treat patients with care, support and compassion.
- Late Middle Ages (in Europe) witches were prevalent, in which a woman was supposedly possessed by the devil. **Martin Luther** had significant influence on the idea of witchcraft & possession. Those with a mental illness were typically treated and cared for by the clergy. Exorcisms also became a popular form of treatment.
- During the period of the Renaissance, **Paracelsus** (a Swiss alchemist) claimed that all mental illnesses resulted from disturbances of the *spiritus vitae* (breath of life). **St Vitus' dance** became known during an epidemic of mass hysteria in which groups of people would suddenly be seized by an irresistible urge to leap/dance/jump/convulse. During the Renaissance, Spain enjoyed a golden era of medicine in which mental institutions were established. **St Teresa** (during the Inquisition) and **St Vincent** convinced people to take a more scientific and humane approach to mental illness (which saved many who were labeled possessed, from being killed).
- Asylums were increasingly being built across Europe with the goal of these institutions being a compassionate place for the mentally ill to heal, however the asylums ultimately became a place with appalling living conditions and cruel treatment. The asylums weren't receiving sufficient funding and therefore those in charge of the institutions raised money by allowing visitors to come and tease the patients. Asylums in Canada were no better, with the use of electric shocks, bleeding and plunging the patients into ice cold water.
- This humane approach to mental illness and all the progress that had been made was reversed by absolutist governments (in the 16th century) who thought these people were a social problem and threw them into "workhouses."
- During the Enlightenment (in the 18th century) traditional ideas and religious doctrine concerning mental illness were challenged and re-examined. **Philippe Pinel** called for positive changes to be made in institutions such as having inmates' chains removed, windows to let in full sunlight, healthy exercise on the grounds and re-educated the staff to be more kind. The changes were effective, however overcrowding became an issue making it impossible for every patient to be treated.
- **Mental hygiene movement** in North America was characterized by a desire to protect and to provide humane treatment for the mentally ill.
- **Benedict Augustin Morel** introduced the *degeneration* theory that proposed deviations from normal functioning are transmitted by hereditary processes and these deviations progressively degenerate over generations.
- **Cesare Lombroso** concluded from his observations that criminality was inherited and could be identified by the shape of a person's skull.
- **Emil Kraepelin** published *Clinical Psychiatry* which attempted to classify mental illnesses. He noted that certain groups of symptoms tended to occur together and he called these groupings **syndromes**.
- **General paresis of the insane** (**GPI**) was the acquisition of a disorder through an infection. This led to mania, euphoria and a progressive deterioration of brain functioning (causing dementia and paralysis). It was thought that GPI was a long term consequence of syphilis.
- **Somatogenesis** was the idea that psychopathology is caused by biological factors.
- **Manfred Sakel** tried to treat morphine addiction by inducing the patient in a coma with insulin. It proved successful for a majority of patients and was used up until 1944 to treat mental illness.
- **Meduna** concluded through experimentation that producing seizures in people with schizophrenia might eliminate their disorder all together. 50% of his experiments worked. As a result, Metrazol induced convulsions became reasonably popular in the treatment of psychotic patients.

- **Electroconvulsive therapy** (**ECT**) soon replaced these other physical treatments of mental illness and became popular throughout the world. (To this day, depression is still said to be successfully treated through ECT treatment) In 1938, Italian physicians were the first to administer shock therapy using electricity to schizophrenic patients and received successful results.
- **Deinstitutionalization** was introduced by US president John Kennedy at the beginning of the 1950s, in which hundreds of thousands of institutionalized patients were discharged. However, the closing down of institutions happened faster than the development of adequate community resources for these people causing many to become homeless and lack support.
- In 1988 Canada published **Mental Health for Canadians: Striking a Balance** which was intended to promote mental health and improve community care.
- The pharmaceutical industry boomed, making huge profits off of neurotransmitter affecting drugs to treat patients with schizophrenia, depression and mania.
- **Mesmerism** was a form of hypnotization due to the "power of suggestion." Similarly, **hypnosis** allowed the patient to talk freely about and relive the unpleasant past events that he believed caused the hysteria.
- **Behaviourism** was based on observable features, behaviour was learned (derived from studies on classical conditioning).

• In the early days of settlement in Canada, people were content to place the insane in prisons along with criminals. Little or no treatment was offered. Quebec was the first place to open an asylum to house the mentally ill. Asylums were established in other provinces between the mid 1800s and early 1900s. Tens of thousands of Canadians endured **lobotomies** (removal of the frontal lobes of the brain) from the mid 1940s until the late 1960s, and the testing of LSD and brainwashing on patients with no informed consent was performed. In 2007 Stephen Harper introduced the **Mental Health Commission of Canada** aimed at developing an integrated mental health system that encourages better cooperation among governments, mental health providers, employers, the scientific community and the Canadians who live with or care for those with mental disorders. Canada is also increasing its focus on **evidence based practice** which refers to the integration of scientific evidence with individual expertise in order to inform optimum client care.
• **Albert Bandura** developed a theory suggesting that aggressive behaviour in childhood was learned through observation.
• **Donald Meichenbaum** played a key role in the development of cognitive-behavioural therapy, which is now used as a treatment for a variety of psychological disorders.

Chapter 2

• **Single factor explanation** attempts to trace the origins of a particular disorder to solely one factor. (Also can be referred to as *reductionism* whereby the cause is being reduced to one single component)
• **Interactionist explanations** view behaviour as the product of the interaction of a variety of factors. It takes into account the biology and behaviour of the individual, as well as the cognitive, social and cultural environment.
• Theories gain strength because alternative explanations are rejected.
• **Null hypothesis** proposes that the prediction from the theory is false.
• **Etiology** is the causes or origins of a mental disorder.
• Cognitive therapy directly seeks to reduce symptoms of depression and anxiety by modifying maladaptive thoughts, attitudes and beliefs as well as information processing biases. Cognitive therapy has also shown to reduce the activation of the amygdalohippocampal subcortical region along with increased activation of the brain regions involved in the cognitive control of negative emotion.
• Different theories on the etiology of mental disorders:
    1. **Biological;** proposes that brain dysfunction, neurotransmitters, hormonal or peripheral nervous system problems or genetic errors cause psychological problems.
    2. **Psycho-dynamic;** Freud suggested that behaviour is controlled by unconscious forces. *Three levels of consciousness that determine the accessibility of thoughts and desires*- conscious (information of which we are currently aware), preconscious (information that is not presently in

awareness but can be retrieved) and unconscious (individual's memories that can only be retrieved with difficulty).
Three personality structures of psychodynamic theories- id (represents biological or instinctual drives), ego (develops to control the desires of the id) and superego (internalization of the moral standards of society). The ego attempts to satisfy the id while not offending the principles of the superego.
Freud thought that through hypnosis, memories of traumatic experiences that were once repressed could be retrieved as a form of treatment called **catharsis.**
The stages of psychosexual development outlined by Freud indicated the points in experience where problems can arise (oral stage, phallic stage etc), and defence mechanisms were a way for people to channel their psychic energy in functional or dysfunctional ways.

3. **Cognitive-behavioural;** *Classical conditioning* (all behaviour is learned). A neutral stimulus (CS) comes to elicit a conditioned response (CR) through its being paired with another stimulus (UCS) that already elicits that reflexive response (UCR). In *operant conditioning* when a behaviour increases in frequency in response to consistent consequences, reinforcement is said to occur. When the behaviour decreases in frequency as a result of its consequences this is described as punishment. *Social learning theory* refers to adopting behaviour through observation of others (and through books, movies and TV). This theory also assumes that the way in which people view the world, including their beliefs and attitudes towards the world/themselves/others arises out of their experience & that these patterns of thinking/perceiving are maintained by consequences in the same way that overt behaviour is maintained.
4. **Cognitive;** mental health problems stem from dysfunctional beliefs, attitudes or ways of thinking. **Rational-emotive behaviour therapy** developed by Ellis argued that when faced with unfavourable life circumstances, human beings tend to make themselves feel frustrated, disappointed and miserable, behaving in a self defeating way mainly because they construct irrational beliefs about themselves and their situations.
Three main levels of cognition- schemas (internal representations of stored information and experiences), information processing and intermediate beliefs (dysfunctional rules, assumptions and attitudes) and automatic thoughts.
Example: A person vulnerable to depression may believe they are unlovable, but this belief may not affect the individual until they experience rejection. They may then selectively attend to and recall information that is consistent with this negative view of the self. Different types of beliefs are considered to be related to different kinds of abnormal behaviour- **content specificity**. (Schemas) People with high levels of anxiety pay more attention to threatening stimuli, negatively interpret ambiguous stimuli and show enhanced memory for stimuli related to their fears. This pattern of information processing is consistent with an anxious individual's schema. (Information processing biases and intermediate beliefs) An individual who passes someone else in the corridor may think "she hates me" perhaps stemming from a core belief of being unlovable. (Automatic thoughts)
5. **Humanistic/Existential;** Rogers' client centred therapy. Distorted perceptions misshape a person's sense of self which provides the basis for choices of action. These choices will be detrimental to personal development and further entrench the distorted views of self and experience, thereby perpetuating dysfunctional behaviour.
In Maslow's view, abnormal or dysfunctional behaviour results from a failure to attain the self esteem necessary to achieve self actualization. **Self actualization** entails physiological needs, safety needs, belongingness needs and esteem needs.
This theory considers human behaviour a personal decision based on their experience and on their perception of themselves.
Existential- the individual is responsible. Mindfulness is paying attention to the present moment in a non-judgemental way. Viktor Frankl and Rollo May are the biggest contributors to existentialist theories.
6. **Socio-cultural;** stigma causes people to avoid treatment so that they are not labelled publicly as being mentally ill and so that they don't have to accept the label which both lead to decreases in

self esteem. **Labelling theory** suggests that a person being identified as having a disorder results in other people perceiving that person as dysfunctional and different.
Social support from close others is a significant factor in preventing or reducing the intensity of psychological problems. The influence of societies' stereotypes also plays a role in the development of disorders (as do poverty and social class). Girls will have more social pressure with regards to their looks/weight and therefore experience much higher probability of eating disorders. Severe psychological problems are three times higher among the lowest income groups.

- The *hindbrain* primarily directs the functioning of the autonomic nervous system, which controls internal activities such as digestion, cardiovascular functioning and breathing.
- The *midbrain* is the centre of the reticular activating system which controls arousal levels and attentional processes.
- The *forebrain* control thought, speech, perception, memory, learning and planning.
- Imaging techniques to detect damage or dysfunction in the brain include *CAT* scans (computerized axial tomography), *MRIs* (magnetic resonance imaging) and *PET* scans (positron emission tomography).
- **Neurotransmitters** are chemical substances that carry messages from one neutron to the next. Excitatory or inhibitory. Disturbances in neurotransmitter systems can often result in abnormal behaviour. (Too much or too little production or release, too many or too few receptors on the postsynaptic membrane, substance which deactivates neurotransmitter in the synaptic cleft is imbalanced, reuptake is too slow or too fast)
  - Dopamine; reward pathways of the brain (schizophrenia)
  - Serotonin; feelings of well being and happiness (short in supply in people with depression)
  - GABA; main inhibitory neurotransmitter (anxiety)
- **Brain plasticity** is the capacity of the brain to reorganize its circuity. Brain plasticity can be influenced by a number of experiences that occur pre and postnatally through hormones, diet, aging, stress, disease and maturation.
- **Peripheral nervous system:**

  1. Somatic nervous system controls the muscles

  2. Autonomic nervous system consists of two systems which work together to produce *homeostatic* (balanced) activity in a variety of bodily functions such as heart rate, digestive and eliminatory processes, sexual arousal, breathing, sweating etc. However during stress, these two systems work antagonistically (for example: when threatened our heart rate increases, pupil size increase and breathing becomes faster; meanwhile our digestive processes are put on hold to not waste energy on an unneeded function in the moment) **Sympathetic** & **Parasympathetic**
- Individuals differ in both the strength and the duration of their response to threat, and this variability has been related to the person's propensity to develop psychophysiological disorders.
- The **ANS** is involved in fear and anxiety reactions. Thus, an overreactive **ANS** may increase readiness to acquire phobias or other anxiety disorders. (**Norepinepherine**- lowest during sleeping state, fight or flight response, high arousal)
- Autonomic and somatic inflexibility may be particularly important to generalized anxiety disorder.
- **Hypothalamic Pituitary Adrenal Axis** (HPA axis) interacts with the sympathetic nervous system, involves the immune system and releases cortisol under stress.
- **Hormones** are chemical messengers that are secreted by various glands. *Growth hormone* promotes and regulates muscle, bone and other tissue growth. *Prolactin* stimulates milk production in women. *Adrenocorticotropic hormone* helps the body handle stress.
- 2 disorders are known to be related to the malfunctioning of the **endocrine glands**:
  - *Cretinism* which involves a dwarf like appearance and mental retardation (stemming from a defective thyroid gland)
  - *Hypoglycaemia* which results from the pancreas failing to produce balanced levels on insulin or glycogen and mimics the symptoms of anxiety.
- **Behavioural genetics** are the biological bases of abnormal functioning.
- **Genotype** is the unobservable genetic constitution.
- **Phenotype** is the observable characteristics.

- **Epigenetics** is the interaction between genotype and environment which causes some genes to be activated and others to be deactivated.
- **Genotype environment interaction** describes how features that are inherited interact with the environment to produce behaviour.
- In family, twin and adoptive studies, the test subject is said to be *concordant* to the person they are being compared to if a disorder is shared (showing the influence of genetics).
- **Genetic linkage studies** are studies that examine families with a high incidence of a particular psychiatric disorder. Look for genetic markers.
- You can inherit a predisposition but not a disorder; you need that stressor to set it off.
- In **molecular biology** researchers have been able to compare specific DNA segments and identity the genes that determine individual characteristics. This allows researchers to pin point the defective genes that cause various medical and psychological disorders.
- **Systems theory** sees causation as the combined effect of multiple factors that are likely to be bidirectional. (Child who misbehaves influences their parent/s to take action that may worsen the child's behaviour even more)
- **Diathesis stress perspective** says that a predisposition (diathesis) to developing a disorder interacting with the experience of stress can cause mental disorders. A biological diathesis occurs through genetics, whereas a psychological diathesis is a result of temperament, child abuse, social/cultural pressures etc. *Example;* socio-cultural standards of an attractive body shape seem to create a diathesis for eating disorders.
- **Bio-psycho-social model** takes into account each factor and may emphasize one over the other depending on the disorder.

Chapter 3

- **Assessment** is a procedure through which information is gathered systematically in the evaluation of a condition. It serves as the basis for a diagnosis.
- *Characteristics of a strong diagnostic system*:
  - Reliability
  - Inter-rater reliability (extent to which two clinicians agree on the diagnosis of a particular patient)
  - Validity (whether a diagnostic category is able to predict behavioural and psychiatric disorders accurately, includes concurrent and predictive validity)
  - **Atheoretical** means the expansion of theories rather than endorsing on only one and making behavioural descriptions more precise.
  - **Polythetic** meant an individual could be diagnosed with a certain subset of symptoms without having to meet all criteria.
  - A diagnostic system for mental disorders serves a number of important functions such as:
    1. Providing a description of mental disorders
    2. Distinguishing among different types of mental disorders
    3. Providing a vocabulary for communicating mental disorders
    4. Facilitating research in psychopathology
    5. Classification is important in accurately assessing and diagnosing as well as determining effective treatment for mental disorders
    6. Surveying population health
    7. Understanding the prevalence and etiology of particular mental health problems
- A diagnostic system is based on etiology, presenting symptoms, prognosis and response to treatment.
- A diagnostic system also allows for professionals to communicate easily.
- History of classification:
  1. Kraepelin was the first to make an effort at classification.
  2. World Health Organization added mental health disorders to the "International List of the Cases of Death".
  3. In 1948 the list was expanded to become the "International Statistical Classification of Disease, Injuries, and Causes of Death" (ICD)

4. **4.** Due to limitations of the ICD system, in 1952 the American Psychiatric Association published its own classification system called the "Diagnostic and Statistical Manual" (DSM).
5. **5.** Both systems (DSM & ICD) have since been revised to address inadequacies of previous editions and to ensure research evidence is up to date.
6. **6.** The most commonly used system in North American is DSM-5, published in 2013.

- Many professionals feel that current and past version of the DSM remain too closely aligned with the medical model in that it leads to excessive stigmatization and loss of information about individuals. It also uses categories that do not do justice to the complexity of human behaviour. It may also display gender and cultural biases.
- Previous models of the DSM were based on a multi axial system where diagnosing a mental disorder required the evaluation of an individual on a broad array of information that may be of concern. The new DSM-5 model strives to harmonize these factors (like present medical conditions, psychosocial stresses and the individual's degree of functioning) rather than asses these as separate.
- DSM-5 structure:
  - Section I; introduction and use of the manual
  - Section II; clinical disorders
  - Section III; emerging measures and models
- <u>Categories of disorders</u>
  - **Neuro-developmental disorders**; ADHD, intellectual disability, autism, learning disorders, communication disorders, motor skill disorders/tic disorders.
  - **Schizophrenia and other psychotic disorders**; thought disorder, disorganized behaviour.
  - **Mood disorders**; depression, mania, bipolar disorders (dysthymia, cyclothymia)
  - **Anxiety and related disorders**; phobia, OCD, acute stress disorder, PTSD, hoarding disorder, agoraphobia, social anxiety, panic disorder, body dysmorphic disorder, adjustment disorder.
  - **Dissociative disorders**; dissociative amnesia, dissociative identity, depersonalization disorder.
  - **Somatic symptom and related disorders**; conversion disorder, illness anxiety disorder, factitious disorders, body dysmorphic disorder.
  - **Feeding and eating disorders**; anorexia nervosa, bulimia nervosa, binge eating disorder.
  - **Elimination disorders**; enuresis, encopresis.
  - **Sleep-Wake disorders**; insomnia, hypersomnolence, narcolepsy, breathing related sleep disorders, parasomnias (sleepwalking disorder or sleep terror disorder)
  - **Sexual disorders and gender dysphoria**; sexual dysfunction, paraphilia, gender dysphoria.
  - **Disruptive, impulse control and conduct disorders**; intermittent explosive disorder, oppositional defiant disorder, conduct disorder.
  - **Substance related and addictive disorders**; alcohol related disorders, hallucinogen related disorders, opioid related disorders, sedative/hypnotic/anxiolytic related disorders, stimulant related disorders, gambling disorder.
  - **Neuro-cognitive disorders**; delirium, Alzheimers, substance abuse.
  - **Personality disorders**; antisocial personality disorder, dependent personality disorder.
- **Evidence based practice** refers to the assessment and treatment of psychological disorders based on the most current and valid research findings.
- A criticism of the DSM system is it's **categorial approach** to the classification of mental disorders, whereby an individual is deemed to either have a disorder or not have a disorder with no in between.
- Certain people are denied help because they fall just short of diagnostic criteria.
- Researchers have advocated for a **dimensional** approach to diagnosis based on a continuum for mental disorders from non-existent to mild to severe.
- A **hybrid** approach combines aspects of both dimensional and categorial systems of classification.
- **Clinical utility** refers to the extent to which a diagnostic system assists clinicians in performing functions such as communicating clinical information to patients, their families and other health care providers, selecting effective interventions and predicting the course of a disorder.

Chapter 4

- **Psychological assessment** is not a single score, but a series of scores placed within the context of the history, referral information, behavioural observations and life of an individual in order to provide a comprehensive understanding of that individual. A *test* is only a sample of behaviour- a tool to be used in this process of assessment.
- **Test-retest reliability** refers to the degree to which a test yields the same results when it is given more than once to the same person.
- **Internal consistency** refers to the degree of reliability within a test. This is measured through split-half reliability or coefficient alpha.
- **Face validity** means that the user of a test believes the items on that test resemble the characteristics associated with the concept being tested for.
- **Content validity** requires that a test's content include a representative sample of all behaviours thought to be related to the construct that the test is designed to measure.
- **Criterion validity** qualities may be easier to recognize than to define them completely. (For example, testing singing ability)
- **Construct validity** refers to the importance of a test within a specific theoretical framework and can only be understood in the context of that framework.
- **Clinical approach** to diagnosing a patient argues that there is no substitute for the clinician's experience and intuition. Whereas the **actuarial approach** takes a more objective stand point, relying more on statistical procedures and empirical methods. (More efficient in terms of making predictions in a variety of situations, but many equations and algorithms do not generalize to practice settings and there are no prediction rules for the bulk of our decisions)
- While **CT scans** and **MRI**s can produce a static image of the brain's anatomy, **PET scans** and **fMRI**s produce a dynamic image of the functioning brain.
- The **Bender Visual-Motor Gestalt Test** is the oldest and most commonly used tests to determine the relationships between behaviour and brain function. The results are compared to the results expected at a given age.
- The *Halstead-Reitman* neuropsychological battery consists of six subtests:
  - Rhythm test (asked to identify which pairs of 30 tape recorded rhythmic beats are the same or different- tests concentration and attention)
  - Tactual performance test (fitting blocks of various shapes into their corresponding spaces on a board while blindfolded, then must draw the board from memory- tests visual memory)
  - Tapping test (examinee taps rapidly on a lever)
  - Grip strength test (helps to identify the location of brain damage)
  - Auditory test (asked to identify aurally transmitted nonsense words)
- **Unstructured interviews** tend to be open ended affairs that allow interviewers to concentrate on a person's unique lifestyle or on certain aspects of the presenting problem. This facilitates rapport with the patient and creates mutual trust & respect. However, clinicians may tend to uncover only information that fits their theoretical orientation and confirms their hypotheses.
- **Structured interviews** are very specific in the order and working of questions and in the rules governing the evaluation of responses. Although they increase reliability, they may jeopardize rapport.
- The **mental status examination** is a form of interview that is **semi structured** which screens for patients' emotional, intellectual and neurological functioning.
- The most used semi structured interview by DSM in assessing psychopathology is the *"Structured Clinical Interview."*
- **Projective tests** are used to study personality by presenting a person with an ambiguous stimulus, and the person is expected to project their unconscious motives, needs, drives, feelings, defences and personality characteristics onto that stimulus. **Rorschach inkblot test** and **Thematic apperception test**. Since such tests allows for freedom of expression, they may also shed light on areas that a questionnaire might not cover. However, research has not been very supportive of the reliability and validity of many projective techniques.

- The **Minnesota Multiphasic Personality Inventory** is a widely used personality test. It is multiphasic because it assesses many aspects of personality.
- **Millon Clinical Multiaxial Inventory** was developed to help clinicians make diagnostic judgements about personality disorders and other clinical syndromes found in the DSM. It's been criticized for underestimating the severity of depressive syndromes and over diagnosing personality disorders.
- **Personality Assessment Inventory** is a self administered, objective inventory of adult personality.
- Behaviourally oriented therapists often observe children's problem behaviours in relation to the antecedents (what happens before the behaviour) and consequences (what happens after the behaviour).
- **In vivo observation** involves the clinician going into the person's everyday environment to record a running narrative. Contrastingly, **analogue observational setting** is an artificial setting constructed by the researcher to elicit specific behaviours in individuals. However, validity of such research results may be undermined by reactivity (change in behaviour often seen when people know they are being observed). Observations in one setting can also not be applied to every other setting. Often expensive in terms of time, equipment and scoring procedures.
- **Epidemiology** is the study of incidence and prevalence of disorders in a population.
- Family, adoption, twin and gene-environment interaction studies offer valuable insight into the relative contribution of heredity and the environment.
- Three different ways that genotypes and environments are related and can influence development:
  1. Passive gene-environment correlation (one's biological parents determine the genotype but also the quality of one's early experiences)
  2. Evocative gene-environment correlation (individuals' heritable behaviours evoke an environmental response)
  3. Active gene-environment correlation (individuals possessing particular heritable propensities by virtue of their genotype will be more likely to actively select certain environments)
- Researchers say it is not enough to demonstrate statistically significant results of an intervention. It is more important to know whether the treatment offers meaningful relief of distress of people with psychopathology. Both statistical and clinical approaches are significant when determining whether a treatment is effective and useful in the real world.

Chapter 5

- Three distinctive components of emotion:
  - *Physiological* involves changes in the autonomic nervous system that result in respiratory, cardiovascular and muscular changes in the body.
  - *Cognitive* includes alterations in consciousness (attention levels) and specific thoughts a person may have while experiencing a particular emotion.
  - *Behavioural* responses tend to be consequences of certain emotions.
- **Anxiety** is an affective state whereby an individual feels threatened by the potential occurrence of a future negative event.
- **Fear** is a more primitive emotion and occurs in response to a real or perceived current threat. The behavioural response to fear is *fight or flight*.
- **Panic** is a form of extreme fear that is triggered even though there is nothing to be afraid of.
- Until 1980, anxiety disorders were classified together with dissociative disorders under *neurosis*.
- *Freud* theorized that anxiety occurred because defence mechanisms failed to repress painful memories, impulses or thoughts.
- **Etiology** of anxiety disorders:
  - *Biological factors;* there is evidence of genetic influence on anxiety disorders. Individuals who have a family member who is diagnosed with an anxiety disorder are 4-6 times more likely to have an anxiety disorder. The role of brain systems including the amygdala (processes stress), HPA axis (dysregulation) and neuro-chemicals such as GABA (most pervasive inhibitory neurotransmitter) are important in the assortment of general cognitive, affective and behavioural functions.
  - *Psychological factors;* it is argued, from a *behavioural perspective*, that anxiety and fear can be learned (classical conditioning & two factor theory) whereby fears develop through the process of

classical conditioning and are maintained through operant conditioning. Avoidance can be effective in reducing anxiety in the short term but can serve to increase anxiety in the long term. *Vicarious learning* is another way to acquire fears by observing the reactions of other people. There is also some evidence however, that we are biologically prepared to fear certain types of stimuli. From a *cognitive perspective,* fear may be attributable to the biased perceptions people have about the world, the future and of themselves. Anxious individuals tend to focus on information that is relevant to their fears. Schemas, information processing and automatic thoughts are believed to be relevant to the development and maintenance of anxiety.
  - *Interpersonal factors;* parenting styles may foster the same anxious feelings in their children. Attachment theorists believe that early parent-child interactions can lead to the development of general belief systems for how relationships operate in general. Anxious-ambivalent attachment style in infancy predicted anxiety problems in teens.
  - Barlow called an interaction of all three factors “triple vulnerability.”
- There’s a higher likelihood of women developing anxiety disorders; hormonal fluctuations, genetic vulnerability to stressful life events, increased likelihood of sexual abuse in childhood.
- Individuals with **panic disorder** experience recurrent and unexpected panic attacks. During a panic attack an individual gets a sudden rush of intense fear or discomfort and experiences a number of physiological and psychological symptoms. Panic disorder is characterized by the worry of having additional panic attacks. Genetic diathesis. Gene polymorphism (increases susceptibility). GABA neutrons (problems with GABA signalling, fewer GABA receptor binding sites in people with panic disorder).
- **Agoraphobia** pertains to anxiety about being in places or situations where an individual might find it difficult to escape. Panic disorder and agoraphobia are highly comorbid. When avoidance (to reduce anxiety) is persistent and pervasive then agoraphobia is normally diagnosed.
- Panic disorder and agoraphobia are often comorbid with depression, substance abuse problems and other anxiety conditions. They are diagnosed through a multi method assessment including a clinical interview, behavioural measurement, psychophysiological tests and self report indices.
- **Behavioural avoidance test** asks patients to enter situations that they would typically avoid. They provide a rating of their degree of anticipatory anxiety and the actual level of anxiety that they experience.
- Psychophysiological assessment strategies can include the monitoring of heart rate, breathing, blood pressure and galvanic skin response while a person is approaching a feared situation or experiencing a panic attack.
- Many individuals with panic disorder report *nocturnal panic* in which they have panic attacks while sleeping, and relaxation-induced attacks.
- Cognitive theories focus on the idea that individuals with panic disorder catastrophically misinterpret bodily sensations.
- A fear is considered a **phobia** when it causes distress and significantly disrupts an individual’s daily life. To be diagnosed with a phobia, exposure to the feared object or situation must invariably produce an anxiety reaction that is excessive and unreasonable.
- 5 types of specific phobia:
  - **Animal type**; the phobic object is an animal or insect.
  - **Natural environment type**; the phobic object is part of the natural environment (thunderstorms, water, height etc).
  - **Blood injection-injury type**; the person fears seeing blood or an injury, fears an injection or fears another type of invasive medical procedure.
  - **Situational type**; the person fears specific situations (bridges, public transportation, enclosed spaces etc).
  - **Other type**; used for all other phobias.
- With regards to phobia, the classical conditioning theory is criticized as assuming all neutral stimuli have an equal potential for becoming phobias (**equipotentiality premise**). The **non associative model** however, proposes that the process of evolution has endowed humans to respond fearfully to a select group of stimuli (spiders, water, heights) and no learning is necessary to develop these fears. Evidence of this can be seen in the way babies develop stranger anxiety instinctively. However, some individuals

fail to habituate to certain stimuli the way others can. This could be due to a lack of appropriate opportunities for exposure during development or because of individual differences in the rate of habituation. **Biological preparedness** is the predisposition to fear objects and situations that represented threats to our species over the course of our evolutionary heritage. The degree to which people are susceptible to being disgusted by a variety of stimuli such as bugs, is referred to as **disgust sensitivity**. Women tend to have a higher disgust sensitivity than do men.

- **Social anxiety** involves an underlying fear of being evaluated negatively and frequently worry about what others might be thinking about them. Normally the individual is aware that their anxiety is unreasonable but despite this knowledge, the fear persists. Social anxiety is typically comorbid with mood and substance disorders. The diagnosis is usually done in a structured or semi-structured interview combined with self report measures. Genetic factors account for more than half of social anxiety cases. Toddlers who are behaviourally inhibited (highly aroused to novel stimuli) are twice as likely to develop social anxiety. Reduced synaptic reuptake and receptor binding of dopamine-2, dysregulation of the interplay between serotonin, norepinephrine and corticotropin releasing factors during stress responses, increased amygdala response to looking at faces are associated with socially phobic behaviour. Psychological experiences also play a large role in shaping an individual's risk for social anxiety, such as being bullied in school or exposed to a greater level of parental criticism/control. Cognitive factors include poor self image and abnormal processing of social information.
- **Generalized anxiety disorder** is the inability to control excessive worry. To be diagnosed with GAD, excessive worry must be present for more days than not for a period of at least 6 months. Worrying decreases the physiological reaction to phobic stimulus by inhibiting cardiovascular activity. Worrying is thought to be negatively reinforced because in can lead to a reduction in anxiety symptoms. Worrying may also be used by some to prepare for the future and avoid future threat. One theory of GAD focusses on a cognitive vulnerability factor called "*intolerance of uncertainty*." Individuals with GAD have a lower threshold for accepting and dealing with uncertainties. fMRI studies show that there is a *biological* factor; white matter abnormalities in the amygdala and anterior cingulate cortex.
- **Obsessive compulsive disorder** is a recurrent obsession and compulsion that causes marked stress for an individual. Individuals with OCD often attempt to cope with their feelings of discomfort by engaging in compulsions (repetitive behaviours or cognitive acts that are intended to reduce anxiety). **Thought action fusion** refers to two types of irrational thinking: the belief that having a particular thought increases the probability that it will come true & the belief that having a particular thought is the moral equivalent of a particular action. The diagnosis of OCD requires the presence of an obsession or compulsion. Patients with OCD have less brain volume in parts of the frontal cortex (controls reasoning) and more brain volume in parts of the basal ganglia (controls motor behaviours). The cognitive-behavioural conceptualization posits that problematic obsessions are caused by the person's reaction to intrusive thoughts. Obsessions are believed to persist because of the person's maladaptive attempts to cope with them. They may suppress their thoughts, avoid behaviours and neutralize situations. Equal gender prevalence.
- **PTSD** is a psychological condition that may ensue following exposure to a traumatic life event. To be diagnosed with PTSD, the individual must display symptoms for longer than a month after the event. The individual re-experiences the event in some way upon being reminded of the traumatic event. They may avoid people, places or activities that remind them of the event which is classified as cognitive or behavioural avoidance. Pre-event risk factors for adult PTSD include being low in socio-economic status, education, tested intelligence, having previous psychiatric history, experiencing childhood adversity etc. Post-event risk factors include the severity of the traumatic event, lack of social support and whether or not additional stressful experiences occur after. Neuroimaging and endocrinology are beginning to uncover physiological markers of PTSD. An important biological component to the stress response is the functioning of the HPA axis (decreased cortisol and enhanced negative feedback of adrenal function). The volume of the hippocampus is less in individuals with PTSD (may be considered a hereditary risk factor to PTSD). Generalization of the traumatic event to all similar environments or people will cause for the symptoms of PTSD to remain. Exposure based behavioural interventions and cognitive-behavioural therapy are the most effective treatments.
- Interventions include:

- Pharmacotherapy; not a recommended long term solution because of side effects & relapse possibility. (GAD, panic disorder)
- *Cognitive restructuring* is based on the idea that anxiety and other emotional disorders are due to faulty, maladaptive or unhelpful thinking patterns. They develop more balanced thinking styles with the help of a therapist. Used in cognitive behavioural therapy (GAD, OCD, PTSD, panic disorder).
- *Exposure techniques* are based on the principle that by facing anxiety-provoking stimuli, one's fears become extinguished (through the process of habituation). "In vivo" means presenting the fear in real life. New coping skills are development and significant cognitive changes occur (used for GAD, phobias, PTSD, panic disorder).
- **Interoceptive exposure** involves induction of physical sensations by means of hyperventilating, spinning in a chair, exercising etc (panic disorder).
- **Ritual prevention** involves promoting abstinence from rituals that may reduce anxiety in the short term but only serve to reinforce the obsessions in the long term (used for OCD).
- **Problem solving** involves defining a specific problem, generating a wide range of alternative solutions, deciding on and implementing one or more of the solutions and evaluating the outcome.
- **Relaxation** can be performed mentally or physically as a way of overcoming anxious arousal. (GAD, panic disorder)
- *Cognitive behavioural group therapy* is best to treat social anxiety. Often D-cycloserine (antibiotic) is taken while participating in group therapy because it can enhance learning.

Chapter 8

- Hippocrates attributed depression to an excess of black bile which could be seen as a heavy residue in the blood or discolouration on the skin. Bloodletting was an attempt to rebalance the body's humours at that time.
- Romans were the first to suggest psychotherapy as a treatment for melancholia (depression).
- Kraepelin coined the term *manic-depression* and described both depressive and manic forms of this disorder. His descriptions formed the basis for **mood disorders** in the DSM-5.
- Freud believed that those most likely to become depressed following a loss are those whose needs were either not met or excessively met during the oral stage of development. Freud then developed the concept of **imagined loss** for individuals that developed depression without any loss. This imagined loss was an unconscious interpretation of events as a form of "loss" by the individual.
- What distinguishes normal mood fluctuations from a mood disorder are their *duration* and *severity*.
- The DSM-5 criteria for depressive disorder includes 9 symptoms of which 5 must be present to achieve a diagnosis.
- **Depressive disorders** involve a change in mood in the direction of depression.
    1. **Major depressive disorder**; DSM-5 criteria says the individual must show a persistent sad mood and/or lack of pleasure or enjoyment in activities for at least two weeks. This must be accompanied by at least 4 additional symptoms: disturbances in eating or sleeping, lack of energy, psychomotor retardation or agitation, difficulty concentrating or making decisions, feelings of worthlessness or guilt, thoughts of death or suicide. 50% who experience one episode of depression will have a second. On average these episodes last 6-9 months (but can also last for years). Depression is comorbid with anxiety disorders.
    2. **Persistent depressive disorder**; chronic low mood (lasting for at least 2 years) along with at least 3 associated symptoms. Persistent depressive disorder has higher levels of impairment, younger age of onset, higher rates of comorbidity, stronger family history of psychiatric disorder, lower levels of social support, higher levels of stress, higher levels of dysfunctional traits.
- **Bipolar and related disorders** involve periods of depression cycling with periods of mania. Mania is made up of energy, decreased need for sleep, racing thoughts, pressured speech and problems with attention & concentration. During periods of mania, judgement is impaired.
    1. **Bipolar I disorder**; an individual has a history of one or more manic episodes with or without one or more major depressive episodes.
    2. **Bipolar II disorder**; history of one or more hypomanic episodes and one or more major depressive episodes. Hypomanic/manic episodes typically last 2 weeks-4 months.

  - **Cyclothymia** is a chronic but less severe form of bipolar disorder. Involves a history of at least 2 years of alternating hypomanic episodes and episodes of depression (that do not meet the full criteria for major depression).
  - **Rapid cycling bipolar disorder** is the presence of four or more manic and/or major depressive episodes in a 12 month period. The episodes must be separated from each other by at least 2 months of full or partial remission, or by a switch to the opposite mood state. This disorder can be induced or made worse by antidepressant medications. *Ultra rapid* is cycling every few days, and *ultradian* is cycling that occurs daily.
- **Seasonal affective disorder** can occur both in unipolar depression and bipolar disorder and is characterized by recurrent depressive episodes that are tied to the changing seasons.
- **Mood disorders** are caused by a number of factors which interact with each other. Mood disorders are highly heritable, presenting a vulnerability that can be triggered by stress in the environment. Vulnerability factors can range from family history of depression, a history of poor relationships with early caregivers or particular personality types.
- Theories on the *psychological & environmental* etiology of mood disorders:
  - *Psychodynamic theories*; the relationships between parents and children are important in shaping a child's temperament. The role of personality in depression is still very relevant. A dependent or self critical personality is more at risk for depression in the face of stress.
  - *Cognitive theories*; one's emotional response to a situation is determined by the manner in which that situation is appraised/evaluated. **Cognitive distortions** include all or nothing thinking, overgeneralization (using words such as 'always' or 'never' after one single negative event), magnification (exaggerating problems) and jumping to conclusions.
  - *Interpersonal theories*; people with depression have deficient social skills. Less frequent eye contact, less animated facial expressions and less modulation in their tone of voice. According to the self-verification theory, **negative feedback seeking** is the tendency to actively seek out criticism and other negative interpersonal feedback from others. An excessive need for interpersonal attachment, support and acceptance can lead to behaviour that causes or maintains depression- **excessive reassurance seeking**. Even if provided with constant reassurance, the depressed individual doubts its sincerity. This creates for conflict in interpersonal relationships due to the maladaptive behaviours of the individual, generating their own stressful life events (**stress generation hypothesis**).
  - *Life stress theories*; severe losses are directly correlated with major depressive disorder. Certain individuals possess characteristics that predispose them to be more sensitive to the effects of a stressful life event. Younger children are more at risk of developing depression in the future after a being a victim to sexual abuse because their maltreatment is internalized in the form of negative cognitive schemas.
- Theories on the *biological* etiology of mood disorders:
  - *Genetics*; higher likelihood of developing the same disorder as a close relative. The role of the serotonin transporter gene has significant influence on sensitivity to stressful life events.
  - *Neurotransmitters*; two neurotransmitter systems' dysfunction has been found to cause depression. *Cathecolamine norepinephrine* (NE) and *indoleamine serotonin* (5-HT) are responsible for the functions that are disturbed in depression such as sleep, appetite, energy and activity level. Low NE activity and fewer 5-HT receptors can be key features in bipolar disorder and major depressive disorder. *Dopamine* (DA) will decrease with low levels of 5-HT which is strongly implicated in the regulation of reward processing and motor behaviour (reduced capacity to experience pleasure). Abnormal DA levels may trigger hyperactivity and psychosis seen in mania. Abnormal levels of NE may trigger euphoria and grandiosity. Low levels of HT-5 (which normally act to inhibit the activity of some neurons leading to inhibition of certain behaviours) can instead lead to "disinhibition" of a variety of behaviours.
  - *Stress & the HPA axis*; HPA axis deals with stress. Chronic stressors result in sustained release of cortisol and a breakdown of the negative feedback inhibition of the HPA axis. Prolonged periods of cortisol hyper secretion can kill brain cells and cause permanent damage to the hippocampus.

- *Sleep neurophysiology*; depressed individuals experience loss of stage 3&4 sleep (slow wave sleep) and an early onset of REM sleep. These sleep abnormalities are controlled by 5-HT and NE. Sleep deprivation triggers the onset of mania.
- *Neuroimaging*; PET scans have shown that bipolar & depressed individuals are associated with decreased blood flow in certain cortical regions of the brain.
- Elevated activity in the amygdala when processing negative information.

- Treatments for depression and bipolar disorder:
  - *Psychological*; major depression can be treated with cognitive-behavioural therapy and interpersonal psychotherapy, which emphasize the role of negative thinking patterns, improving interpersonal relationships, and functioning through structured, collaborative and time-limited therapy sessions. Bipolar disorder can be treated with family focused therapy, interpersonal and social rhythm therapy and cognitive therapy which help improve remission rates and prevent relapse.
  - *Biological*; major depression can be treated with medications such as monoamine oxidase inhibitors, tricyclics and serotonin reuptake inhibitors (Prozac) that increase the availability of one or more neurotransmitters. Treatments for bipolar disorder are normally strictly pharmacologically based including lithium, anticonvulsant medication and antipsychotic medication. ECT, transmagnetic stimulation, vagus nerve stimulation and deep brain stimulation are other forms of treatment normally only used on severely and chronically depressed patients who do not respond to psychotherapy or medication.
  - **Phototherapy** is a treatment used for seasonal affective disorder in which patients sit infront of a small box that contains fluorescent bulbs or tubes. It is of much higher intensity, meant to mimic sunlight. They are instructed to sit in front of the box early in the morning for 30 minutes to 2 hours.
- Judeo-Christian religions, Islam, Buddhism and Hinduism all consider suicide to be a dishonourable act.
- In Canada, suicide was decriminalized in 1972. Among Canadian males aged 15-19 suicide is the number one cause of death.
- In Japan suicide was respected historically as a way to atone to failure.
- **Suicidal ideation** refers to thoughts of death and plans for suicide.
- **Suicidal gestures** are behaviours that look like a suicide attempt but are clearly not life threatening.
- **Suicide attempt** is the carrying out of a suicide plan, which is unsuccessful but for which there was a clear intent to die.
- **Completed suicide** is a successful suicide attempt.
- Men have a higher rate of completed suicides, whereas women have a higher rate of attempted suicides. This is because men choose more lethal methods in committing the act.
- Aboriginal communities have higher than average suicide rates because of poverty, school failure, family violence and high rates of substance abuse.
- The number one cause of suicide is untreated mental disorder.
- *Biological* factors in suicide:
  - Genetics are a risk factor.
  - Low serotonin neurotransmission.
- *Psychological* factors in suicide:
  - Psychache (unendurable psychological pain).
  - Severe stress.
- The primary prevention technique is broad public education programs, but this hasn't proved successful. Other primary prevention strategies have focused on restricting access to suicide means. This was a more effective method in reducing suicide rates.
- Secondary/tertiary prevention strategies focussed on suicide prevention centres and telephone hotlines. Telephone hotlines have had success at reducing suicide completion among those in the suicide ideation phase.
- Cognitive behavioural therapy is an effective treatment strategy, and in more serious cases supervised hospitalization.

Chapter 9

- Schizophrenia is characterized by **heterogeneity** whereby people with the disorder differ from each other in symptoms, family and person background, response to treatment and ability to live outside of a hospital. This makes it difficult to predict the course of schizophrenia.
- Men and women are at equal risk, but men normally develop the disorder several years earlier.
- Tends to be a chronic and relapsing disorder.
- Direct and indirect social and health care costs of schizophrenia approach $7 billion a year in Canada.
- **Positive symptoms** of schizophrenia refer to the obvious signs of psychosis such as delusions, hallucinations, thought and speech disorder, disorganized or catatonic behaviour.
- **Negative symptoms** of schizophrenia refer to the absence or loss of typical behaviours and experiences, such as social withdrawal, avolition (loss of motivation), anhedonia, diminished attention and concentration.
- **Hallucinations** are misinterpretations of sensory perceptions while a person is awake and conscious. May hear, smell, see or feel things that are not really present. An inability to discriminate between internal and external sources of information and experience.
- **Delusions** are implausible beliefs that persist despite reliable contradictory evidence. **Persecutory delusions** are the most common form, in which the individual believes they are being pursued or targeted for sabotage, ridicule or deception. **Referential delusions** involve the belief that common, meaningless occurrences have significant and personal relevance. **Somatic delusions** involve beliefs related to the individual's body. **Religious delusion** is the belief that biblical or other religious passages or stories offer the way to destroy or to save the world. **Delusions of grandeur** entail the belief in divine or special powers that can change the course of history or provide a communication channel to god.
- In speech disorders, the individual experiences a **loosening of associations** and logical connections between ideas, shifting quickly from one topic to another. Thought disorders reflect the presence of more basic cognitive problems in symptomatic patients.
- **Affective flattening** is a lack of emotional expressiveness, conveying little to no feeling in their face, tone of voice or body language.
- Schizophrenia may deteriorate academic or occupational proficiency due to a weakening in cognitive efficiency.
- Disorganized behaviour results in unpredictable movements, problems performing everyday activities (dressing, preserving personal hygiene, inappropriate sexual behaviour). Catatonic behaviour involves a significant reduction in responsiveness to the environment. The individual may assume unusual and rigid postures.
- Diagnosis of schizophrenia involves 6 diagnostic criteria (DSM-5):
    - ***A.*** Characteristic symptoms (two or more symptoms present during a one month period; delusions, hallucinations, disorganized speech, disorganized or catatonic behaviour, negative symptoms).
    - ***B.*** Marked social or occupational dysfunction during the course of the disorder.
    - ***C.*** Persistence of the disturbance for at least six months.
    - ***D.*** The exclusion of concurrent schizoaffective or mood disorders during the active phase of schizophrenia symptoms.
    - ***E.*** The exclusion of substance use or medical conditions as a causal influence of the disorder.
    - ***F.*** Consideration of any history of autism spectrum disorder or a communication disorder of childhood onset.
- Limitations to the diagnosis of schizophrenia based on the DSM-5 criteria are, lack of objective signs and laboratory findings, reliance on presenting symptoms and history, reliable diagnosis (inter-rated reliability) doesn't mean valid diagnosis. Symptom-based diagnosis has questionable validity and low reliability (as symptoms can change).
- **Endophenotypes** is the separation of behavioural symptoms into more stable phenotypes with a clear genetic connection.
- Impairment on the *Continuous Performance Test (CPT)* has been used as a **cognitive marker** of schizophrenia. It reflects deficits in attention and working memory.

- *Eye tracking* results may also be used as a marker for schizophrenia as it reflects neurological impairments.
- Etiology of schizophrenia:
  - Psychoanalysts argued that experiences during infancy could lead to a weak and primitive ego that was unable to distinguish wishes and fears from reality. A severely rejecting mother could be **schizophrenogenic**, creating the conditions for a weak and primitive ego.
  - Sociologists found connections between schizophrenia and poverty. **Social drift** was the idea that people from lower socio-economic classes could not rise economically if they had a predisposition for schizophrenia. The predisposition reduced intellectual abilities and motivation before the symptoms even occurred, preventing the achievement of educational and occupational goals. Negative immigration experiences in people of colour may contribute to increased development of schizophrenia. Living in a city increases the likelihood of developing psychosis if a person already has a vulnerability to mental health problems.
  - More contemporary theorists associate psychiatric conditions with inherited biological vulnerabilities, which then interact with environmental stresses.
  - **Meehl's** theory suggests that **hypokrisia** (biological diathesis) makes nerve cells abnormally reactive to incoming stimulation. Hypokrisia causes **cognitive slippage** in which information is disorganized, incoherent and scrambled. The unselective neuronal firing that causes cognitive slippage gives rise to a gradual increase in feelings on pain. This "**aversive drift**" is what causes the negative symptoms in schizophrenia like social withdrawal and disinterest. A person experiencing cognitive slippage and aversive drift is termed **schizotype**.
  - **Daniel Weinberger** thought subtle brain injuries during fetal development or birth could become a diathesis. These damages may affect the brain regions that normally mature during adolescence. It is then the stress of maturational demands on the weakened brain that precipitates a psychotic crisis.
  - Biological theories; having one parent with schizophrenia increases the risk of developing the disorder 13 times. Exposure to the flu virus in pregnancy increases the risk of schizophrenia in the children. Birth related complications (medical and delivery related problems at birth) may be key environmental and biological events that interaction with a genetic diathesis and further predispose a person to schizophrenia. Abnormalities of the frontal and temporal lobes of the brain are features of schizophrenia (frontal brain damage can cause personality change, impaired self awareness, loss of initiative, disorganized thinking, impulsivity and inappropriate social behaviour). **Neuropsychological tests** activate and depend on the frontal region of the brain, and impairment on such a test may support the hypothesis of the disorder being correlated to defective frontal brain functions.
  - The strongest support for a connection between abnormal dopamine activity or deregulation and schizophrenia comes from studies showing that anti-psychotic drugs like *chlorpromazine* reduce symptoms by blocking dopamine receptors. Chronic exposure to antipsychotic drugs during life may have caused an artificial increase in receptor numbers. Dopamine interacts with other important neurotransmitters such as glutamate and GABA which can influence effects of schizophrenia.
  - More prevalent in North America possibly because of Northern latitude and lack of vitamin D prenatally.
- Treatments for schizophrenia:
  - **Chlorpromazine** was the first antipsychotic medication. Patients who receive this medication require less time in hospital, have fewer relapses and enjoy better life functioning. **Risperidone** and **olanzapine** were produced to control symptoms but eliminate undesired side effects.
  - Cognitive behavioural therapy in schizophrenia helps in belief modification, psycho-education and coping strategy enhancement. CBT showed gains in psychosocial functioning and motivation, and reduced positive symptoms.
  - **Social skills training** includes carrying out appropriate social interaction, coping with common stressors, dealing with household and residential taste and developing employment related abilities. It promotes independence while simultaneously reducing stressors.
  - **Cognitive remediation** is meant to enhance cognitive ability. It has had positive results in improving cognition while reducing psychiatric symptoms, and improved psychosocial outcomes.

  - Family therapy; patients with schizophrenia struggle in adjusting to community life. Other family members can be trained in problem-solving and stress related coping skills.
- **Prodrome** refers to the period before the appearance of psychotic symptoms when vulnerable adolescents become withdrawn and suspicious.
- Early intervention whereby medication and psychological therapies are provided before a person develops prolonged psychosis, has become a new and promising focus for clinical researchers.

Chapter 6

- **Dissociative disorders** are characterized by severe maladaptive disruptions or alterations of identity, memory and consciousness.
  - **Dissociative amnesia**; inability to recall important personal information. Five types of memory loss- localized amnesia, selective amnesia, generalized amnesia, continuous amnesia and systemized amnesia.
  - **Dissociative identity disorder**; presence of two or more personalities. Each of the personalities is distinct and has different memories, personal histories and mannerisms. Average age at diagnosis 29-35. Diagnosed 3-9 times more frequently in women than in men. Suicidal thoughts and attempt are very common in people with DID.
  - **Depersonalization/derealization disorder**; feeling of being detached from oneself and one's physical and social environment. Symptoms must be persistent and cause considerable impairment or distress to be diagnosed. Individuals feel like they are living in a dream, observing their own mental processes or body from the outside.
- Equal prevalence in men and women.
- Comorbid with anxiety, bipolar, depressive and personality disorders.
- **Dissociative fugue** is a subtype of dissociative amnesia, extremely rare in which individuals have a loss of memory for their past and personal identity, and travel suddenly and unexpectedly away from home.
- Etiology of dissociative disorders:
  - The **trauma model** (derived from the stress-diathesis theory) argues that dissociative disorders are a result of severe childhood trauma, sexual/physical/emotional abuse and personality traits that predispose the individual to employ dissociation as a defence mechanism or coping strategy. *Disorganized attachment* as a child may be a risk factor for the development of pathological dissociation.
  - The **socio-cognitive model** suggests DID is a form of role-playing in which individuals come to construe themselves as possessing multiple selves and then begin to act in ways consistent with their own (or their therapist's) conception of the disorder. **Iatrogenic** condition that results from well-intentioned but misguided therapists inadvertently planting suggestions in the minds of their patients that they have multiple personalities. Highly hypnotizable patients may then develop the symptoms of DID as a learned social role.
- Treatment of dissociative disorders:
  - **Integration of the personalities**; the alters merge into a single personality.
  - **Hypnosis**; to confirm the diagnosis, contact alters and uncover memories of traumatic childhood abuse.
- **Somatic symptom and related disorders** causes an individual to complain about bodily symptoms suggestive of medical illnesses, along with significant psychological distress and functional impairment.
- Important criterion for diagnosis is that the bodily complaints did not have a physiological basis or medical explanation. Psychological factors cause excessive worry, distress and impairment.
- **Conversion disorder** is the loss of functioning in a part of the body that appears to be due to a neurological or other medical cause, but without any underlying medical abnormality to explain it. Normally diagnosed in patients with depression and anxiety disorders. This disorder can only be diagnosed after thorough medical testing which provides clear evidence that the symptoms are not compatible with a neurological disease. Individuals with conversion disorder frequently meet the criteria for diagnoses of dissociative disorders.

- **Somatic symptom disorder** (hypochondriasis) pain, fatigue, nausea, muscle weakness, numbness or indigestion which may or may not be due to a diagnosed medical disease or illness. It must be very distressing to the individual and result in significant disruption of daily life. Anxiety about their health, worry excessively about their symptoms and devote excessive time and energy to thinking about them. They may restrict their activities, avoid social events, frequently take sick days from work and even quit their job to stay home on disability. Frequent visits to the doctor, typically with no serious medical problem identified.
- **Illness anxiety disorder** (hypochondriasis) preoccupied with the fear that they have a serious medical disease, despite the fact that thorough medical examination revels otherwise. This disorder is different from somatic symptom disorder in that a person with illness anxiety disorder does not have any significant bodily symptoms, and is more concerned with the idea that they are ill. Somatic symptom disorder however, can involve pain and a valid medical illness. Illness becomes central to self identity, affecting daily activities and a major focus of their conversations with friends and family (IAD). To be diagnosed, the illness preoccupation must have been present for at least 6 months.
- **Factitious disorder** involves deliberately faking or generating the symptoms of illness or injury to gain medical attention. **Factitious disorder imposed on another** is where an individual falsifies illness in another person, most commonly their own child.
- **Body dysmorphic disorder** is excessive preoccupation with an imagined or exaggerated body disfigurement. For diagnosis, clinicians look for significant distress or impairment in social, occupational or another aspect of life. Sufferers typically spend many hours of each day dwelling on their defect to the detriment of work, family or other social situations. Similarities to OCD, but higher rates in BDD of suicidal ideation, delusions, major depression, substance abuse and social phobia.
- Etiology of somatic symptom and related disorders:
  - **Integrative biopsychosocial model**; physiological, psychological and social factors may interact in a series of vicious cycles, with different somatic symptom disorders resulting from different patterns of interaction.
  - **Cognitive factors**; interpretations of the meaning and significance of somatic events, uncontrollable preoccupation with somatic experiences and excessive bodily concerns. Some individuals develop health anxiety, becoming attentionally biased to misinterpret information in a self-alarming and personally threatening manner. Behavioural patterns then emerge, leading to avoidance of illness-related information, tendencies to seek reassurances about health, repetitive symptom checking and persistent demands for health care.
  - Negative experiences in childhood.
  - Social learning comprising of both positive and negative reinforcement of illness behaviours and the "sick role."
  - Stress related increases in cortisol which can adversely affect immunity, and produce feelings of fatigue, pain and general malaise. This then causes the individual under stress to perceive themselves as having a physical illness.
- Treatment of somatic symptom and related disorders:
  - Antidepressants can be used for illness anxiety disorder and body dysmorphic disorder.
  - Cognitive behavioural therapy helps to restructure morbid thoughts and preoccupations, and works to bring dysfunctional behaviour patterns under control.
  - Identification and treatment of comorbid anxiety and depressive disorders is also important.

Chapter 10

- **Anorexia nervosa** is where an individual develops a morbid fear of fatness, perceive themselves as fat and reduce their food intake to the point of emaciation. They believe that eating feared or forbidden foods will result in significant amounts of weight gain. May engage in ritualistic eating behaviours, food restriction, overexercising, purging (self induced vomiting, laxative abuse…) etc. Anorexic individuals perceive their bodies or parts of their bodies to be much larger than they actually are. Accompanying symptoms/behaviours include cognitive/emotional/physiological functioning, social withdrawal, irritability, preoccupation with food and depression.

- **Bulimia nervosa** is periods of food restriction that alternate with periods of binge eating. The binges are followed by attempts to compensate by either vomiting, laxative or diuretic abuse, hyper exercising or starving oneself. Low self esteem, use weight and shape information as their primary method of self-evaluation. Social isolation and depression is common with bulimia nervosa. Normally within the normal weight range. Compensatory behaviours are often conducted in private making it harder for friends and family to detect the problem. A lot of the weight loss that occurs as a result of compensatory behaviours is due to dehydration. Cyclical pattern of restriction, binge eating and purging. Body weight and eating behaviours can allow clinicians to differentiate between anorexia and bulimia.
- **Binge eating disorder** is recurrent episodes of binge eating. **Objective binge** is the consumption of a large amount of food in a specific time period. Binge eating includes eating very rapidly, eating large amounts even when not hungry, eating alone because of embarrassment about the amount that they are eating, feeling very guilty or disgusted after binge eating episodes. Often overweight or obese.
- Eating disorders have the highest mortality rate of all the psychiatric disorders (starvation or nutritional complications or suicide).
- High relapse rate.
- DSM-5 suggests that significantly low weight can be assessed by calculating a **body mass index** (weight in kgs divided by height in m^2). Those with a BMI less than 17 are considered to have a significantly low weight.
- Clinicians are instructed to consider an individual's body build and weight history when determining whether an individual meets the low weight criterion for anorexia. The second criterion is an irrational fear or gaining weight or becoming fat despite being underweight. The last diagnostic criterion is the distortion of body weight.
- **Restricting type** of anorexia is maintaining low body weight through strict dieting and excessive exercise.
- **Binge eating/purging type** of anorexia is dieting accompanied with binge eating/purging behaviours.
- Bulimia can be diagnosed once a binge eating episode and compensatory behaviour occurs on average, one a week for three months.
- *Unspecified feeding or eating disorder* category applies to individuals with symptoms that cause distress and/or impairment, but do not meet criteria for a specified eating disorder.
- In diagnosing, it is important to rule out the possibility of medical conditions.
- The **Eating Disorder Examination** is a structured clinical interview for diagnosing eating disorders that has good reliability and validity. It provides numerical ratings of the frequency and degree of eating disorder symptoms and also provides normative data on dietary restraint, bulimic symptoms, eating/ weight and shape concerns. The interview also explores the patient's interpersonal functioning and potential history of traumatic events. This assesses the contributing factors in the development and maintenance of eating disorders, and what social support the patient has. Psychological disorders are also looked for.
- For some patients, knowledge of the physical and medical complications of their eating disorders can motivate them to pursue recovery.
- A self report is often given to patients, called the **Eating Disorders Inventory** to assess eating disorder attitudes and behaviours.
- Physical and medical complications that can arise out of anorexia include osteoporosis, cardiovascular problems, decreased fertility, lethargy, dry skin, hair loss and heightened sensitivity to cold. Fatal medical conditions include starvation, renal function and cardiac arrhythmia.
- **Amenorrhea** is the absence of at least three menstrual periods in anorexic women.
- Physical and medical complications that can arise out of bulimia include dental problems (erosion of teeth enamel from vomiting/stomach acid), *Russell's sign* (scrapes or calluses on the backs of hands or knuckles), electrolyte imbalance (due to purging- which can then lead to problems with cardiovascular and renal functioning being fatal), comorbid substance abuse, emotional functioning deterioration.
- Physical and medical complications that can arise out of binge eating disorder include elevated risk of type 2 diabetes, cardiovascular disease and sleep apnea.
- Malnutrition may lead to several of the symptoms present in eating disorders, and these symptoms may be alleviated upon improved eating habits.
- Etiology of eating disorders:

- Genetics play a significant role in the development of eating disorders.
- Dysfunctional neurotransmitter activity. The link between serotonin levels and feeding/satiety suggests that dysregulation of the serotonin system can be involved in the pathophysiology of eating disorders.
- Gender differences in the serotonergic system may make women more susceptible to the development of an eating disorder. Dieting alters brain serotonin function in women but not in men.
- Hormonal changes associated with puberty in women may activate the development of disordered eating either directly or indirectly.
- Internalization of media images & pressures for women in Western society to achieve an ultra-slim body.
- The way in which families communicate cultural ideas about thinness can potentially contribute to the development of eating disorders. When the family environment is critical or coercive, or the household is dominated by emphases on weight and appearance, the risk of eating disorders increases. Daughters tend to model their mothers' dieting attitudes and behaviours. Mothers with eating disorders may transmit their pathological eating behaviours to their young daughters. When either parent makes critical comments or is generally emotionally negative, this increases the likelihood of a child developing an eating disorder. High parental expectations that are difficult for a child to meet or that do not correspond to the child's own needs or goals, decreases the child's feelings of autonomy. Parent-adolescent conflicts over autonomy and identity tend to be more intense in girls than in boys, explaining why eating disorders are so much more common in females than in males.
- Certain personality traits can be seen in people with anorexia and bulimia, but they do not cause eating disorders. Having a negative body image, being a chronic dieter, having low self esteem, depression and identity problems can all be risk factors.
- Some sports and activities that place extreme emphasis on body shape seem to be associated with increased risk for eating disorders.
- Pubertal development involves adding fat, which takes girls further away from the thin ideal female figure. Puberty is also a time of increasing sex role demands. Girls want to pursue success in social, appearance, academic, career and family. The onset of dating and sexuality also makes girls' more aware of their bodies.
- Traumatic events (such as sexual abuse) also serves as a risk factor to developing eating disorders.
- Homosexual males may have a greater risk than heterosexual males for developing eating disorders.

• Treatment of eating disorders:
  - Biological; bulimia has been treated with antidepressants and SSRIs since depressive symptoms are common in these patients.
  - Psychological; cognitive behavioural therapy. Interpersonal therapy identifies which problem area is relevant to the patient (grief, role transitions, interpersonal role disputes, interpersonal deficits) to work to improve the client's functioning in that area.
  - Restoring body weight to a minimal healthy level in anorexia. Meal support (providing emotional support during or after meals, normalizing eating behaviour, helping individuals decrease eating-related rituals).
  - Family therapy approach focuses on stresses within the family as a whole and places responsibility for recovery on both the client and her relatives. As eating improves and weight approaches normal levels, the therapist helps the family to return control of eating to the adolescent.
  - Self help manuals- provision of an accessible form of information for individuals who might not otherwise have access to expert help or may be too embarrassed to seek treatment, in conjunction with guidance by a non specialist professional such as a nurse or family doctor, administration to patients on waiting lists for intensive treatment, facilitation of therapist administered CBT. Duration of inpatient treatment was significantly shorter among participants who received guided self help.

<u>Chapter 11</u>

• Substances of abuse are divided into 10 different classes:
  1. Alcohol

2. Caffeine
3. Cannabis
4. Hallucinogens
5. Inhalants
6. Opioids (sedatives, hypnotics)
7. Anxiolytics
8. Stimulants
9. Tobacco
10. Other or unknown substances

- **Substance use disorder** refers to recurrent use of one of these specific substances that leads to adverse consequences.
- **Impairment of control** includes taking the substance in greater amounts or for longer than intended.
- **Social impairment** refer to a failure to fulfill major role obligations at work, home or school. Continued use despite clear negative consequences on relationships, and the reduction of other involvements, to give priority to using the substance.
- **Risky use** refers to situations in which it might be hazardous (such as driving), and in which there is continued use despite the clear indication that use is causing or exacerbating physical or psychological problems.
- **Pharmacological dependence** is seen through tolerance and withdrawal. Tolerance means the person needs increased amounts of the substance to achieve the same effect. Withdrawal symptoms are unpleasant and sometimes dangerous symptoms such as nausea, headache or tremors when the addictive substance is removed from the body.
- **Substance induced disorders** are mental disorders stemming from intoxication, withdrawal etc. The symptoms are caused by the heavy use of the specific substances and they generally resolve when the person stops using the substance.
- **Poly-substance abuse** is the simultaneous misuse or dependence upon two or more substances. Concurrent dependence is more common than not. The combining of drugs is very dangerous because they are often **synergistic** in that, the combined effects of the drugs exceed or are significantly different from the sum of their individual effects.
- The rate of past year drinking is higher for men than for women. Alcohol consumption peaks in the mid-twenties then decreases.
- Single people are more likely to be both casual and heavy drinkers. High income earners and those with a post secondary education are also more likely to be current drinkers. Those with the least education and those out of work reported the heaviest drinking.
- **Low risk drinking guidelines** to provide an indication of the upper limits on drinking so that drinking is not likely to lead to physical impairment. According to low risk drinking guidelines, daily alcohol intake should not exceed two drinks for women and three drinks for men.
- Rates of drinking were highest in Quebec and the Atlantic provinces, and were lowest in British Columbia.
- Students living on their own or in residence drink more than those living at home.
- **Alcohol**:
  - *Ethyl alcohol* is the effective chemical compound in alcoholic beverages, reducing anxiety, producing euphoria and creating a sense of well being. Reduces inhibitions, which adds to the perception that alcohol enhances social and physical pleasure, sexual performance, power and social assertiveness.
  - In some individuals, expectations regarding alcohol's effects are more potent than the actual physical responses.
  - If alcohol is consumed with a meal (or on a full stomach), passage to the intestine is more gradual than when consumed on an empty stomach. Alcohol is broken down in the stomach by the enzyme *alcohol dehydrogenase* which women have less of.
  - Alcohol level is usually expressed as a percentage of blood (*blood alcohol level*). If rate of intake equals rate of metabolism, then blood alcohol level will remain stable.
  - **Biphasic effect** of alcohol refers to the initial effect of alcohol being stimulating as blood alcohol level rises, then once alcohol level peaks and begins to decline, alcohol acts as a depressant.

- Alcohol impairs eye-hand coordination, causes drowsiness, decrease in steadiness, decreased visual acuity, decreased sensitivity to taste/smell/pain, slower reaction time, memory is poorer, perception of time is altered. Alcohol begins to affect driving performance at about 0.05, and starts to rise sharply after 0.08.
- Blackouts are intervals of time for which the person cannot recall key details or entire events.
- Factors related to the severity of long term damage include genetic vulnerability, frequency and duration of drinking, severity and spacing of binges.
- Alcohol interferes with the absorption of nutrients in food that is eaten, and is high in calories. Malnutrition and related tissue damage can result from alcohol abuse. Alcohol use with reduced protein intake is damaging to the endocrine glands, the pancreas and the liver. Cancers associated with alcohol are mouth, tongue, pharynx, larynx, esophagus, stomach, liver, lung, pancreas, colon and rectum. Heavy alcohol use has been associated with damage to the heart muscle, high blood pressure and strokes. Individuals who abuse alcohol demonstrate tissue reduction particularly in the hypothalamus and thalamus. Cell loss in these areas is associated with **Korsakoff's psychosis** which is a chronic disease consisting of impaired memory and loss of contact with reality. **Fetal alcohol spectrum disorder** is a consequence of maternal alcohol abuse (growth retardation, CNS abnormalities, physical impairments).
- Alcohol use costs Canadians $14.6 billion a year in increased health care, law enforcement and reduced productivity.
- The largest alcohol related cause of death was liver cirrhosis, followed by car accidents and then suicide.
- Etiology of alcohol abuse:
  - Genetic contribution. The ability to metabolize alcohol.
  - Brain wave activity. P300 response predicts the early onset of alcohol problems.
  - Neurotransmitters such as GABA, beta-endorphin and serotonin are other potential markers for alcohol disorders. Low serotonin can cause impulsivity, aggression, antisocial behaviour, and craving for alcohol. Other processes involved are sensitivity and density of receptors, variation in rate of metabolism and reuptake of serotonin in the synaptic cleft, dietary intake of amino acids, and the cell's recent firing history.
  - **Behavioural disinhibition** is a character trait in which people with alcohol problems have a relative inability to inhibit behavioural impulses. **Negative emotionality** (eroticism) is another common trait in alcoholic people whereby they experience psychological distress, anxiety and depression.
  - **Tension reduction** hypothesis suggests that drinking is reinforced by its ability to reduce tension, anxiety, anger, depression and other unpleasant emotions.
  - **Alcohol expectancy theory** proposes that drinking behaviour is largely determined by the reinforcement that an individual expects to receive from it. Positive expectancies of alcohol effects predicted higher levels of subsequent alcohol use.
  - **Behavioural tolerance** is the need for a greater amount of drug for the same effect when the conditioned environmental cues are present.
  - Cultural and familial influence.
- Treatment of alcohol abuse:
  - **Minnesota Model**; detoxification under medical supervision, psychological treatment for dependence. Education about alcohol use and abuse, individual counselling for psychological issues, group therapy to improve interpersonal skills. Abstinence is the goal. AA meetings are to be attended. Alcoholism is a "disease."
  - Pharmacotherapy; reduce pleasurable effects associated with drinking, produce nausea when alcohol is consumed. Benzodiazepines have been administered as a first step in treatment, since these medications mimic the effects of alcohol minimizing the effects of withdrawal. Naltrexone (**antagonist drug**) targets the neurotransmitters that mediate alcohol's effects on the brain, and blocks the pleasurable effects of alcohol. Helps to reduce the sensation of craving. Acamprosate is another drug that can be used to reduce the craving for alcohol (**agonist drug**), facilitates the inhibitory action of GABA at its receptors. **Antabuse** and CCC block the action

of the metabolizing enzyme acetaldehyde dehydrogenase, which results in unpleasant effects once someone drinks. Used as a deterrent, to be taken before one gets the urge to drink.
- **Alcoholics Anonymous** (AA); based on a disease model where abstinence is the goal. Members who have stayed sober for a period of time serve as sponsors for newcomers.
- Behavioural treatment; treats problem drinking as a learned behaviour. Aversive conditioning is used to elicit unpleasant stimulus in response to alcohol. **Contingency management** has been used to manipulate reinforcement contingencies for alcohol use (reward sobriety rather than reinforce drinking).
- **Relapse prevention**; programs aim to avoid relapse, and manage a relapse if an when it occurs. Attempt to help individuals identify distorted beliefs and replace them with adaptive ones.
- Marital and family therapy; teaching communication skills and increasing the levels of positive reinforcement in the relationship.
- **Brief interventions**; one to three sessions in length offering time-limited and specific advice regarding the need to reduce or eliminate alcohol consumption.
- **Motivational interviewing**; therapist helps the client to identify and freely discuss both the pros and cons of his/her alcohol use. Client centred.

- **Barbiturates and benzodiazepines** are **depressants** grouped together with sedatives, hypnotics and anxiolytics.
  - Typically prescribed for sleep and anxiety problems.
  - In small doses these drugs cause mild euphoria. Larger doses cause slurred speech, poor motor coordination, impairment of judgement and concentration. Lowers respiration, blood pressure and heart rate to dangerous levels. The diaphragm muscles may relax excessively causing suffocation.
  - Long term use causes depression, chronic fatigue, mood swings and paranoia.
  - Tolerance to barbiturates develops rapidly. Tolerance to benzodiazepines occur much more slowly. Withdrawal from these drugs is a lot more dangerous that alcohol withdrawal.
  - Treatment involves administering progressively smaller doses to minimize withdrawal symptoms, psychological and educational programs, Narcotics Anonymous.
  - **Abstinence syndrome** is characterized by insomnia, headaches, aching all over the body, anxiety and depression.
- **Stimulants** have a stimulating or arousing effect on the CNS and create their effects by influencing the rate of uptake of the neurotransmitters dopamine, norepinephrine and serotonin at receptor sites.
  - Include tobacco, amphetamines, cocaine and caffeine.
  - **Nicotine** is a CNS stimulant, increasing alertness and improving mood. The pleasure centres of the brain gave receptors specific to this chemical. Smoking has been implicated in the development of lung, esophagus, larynx and other cancers. Second hand smoke contains greater concentrations of ammonia, carbon monoxide, nicotine and tar than the smoke inhaled by the smoker. Consistent evidence that counselling is associated with increased quitting. Nicotine replacement in the form of gum, lozenges, inhalers or skin patches helps to reduce cravings and other physiological withdrawal symptoms by maintaining a steady level of nicotine in the system.
  - **Amphetamines** have effects on the body that are similar to those of the naturally occurring hormone adrenaline. Used to treat narcolepsy and ADHD. The appetite suppressant qualities of amphetamines also led to their use as a treatment for obesity. At lower doses they increase alertness and allow the user to focus attention effectively, offering improved performance on cognitive tasks. At higher doses they induce feelings of exhilaration, extroversion and confidence. Chronic use is associated with fatigue, sadness, social withdrawal and intense anger. Long term use of ecstasy can lead to permanent depletion of serotonin. Amphetamine tolerance and dependence develops very quickly.
  - **Cocaine** produces feelings of euphoria, well being and confidence. Users become more alert, talkative, experience reduced appetite, increased excitement and energy due to stimulation of the higher centres of the CNS. Increased availability of dopamine. Produces intense dependence and severe withdrawal symptoms. Antidepressants and dopamine-enhancing drugs may be given to combat withdrawal symptoms.
  - **Caffeine** produces a release of the neurotransmitters dopamine, serotonin and norepinephrine. Can improve problem solving skills, increases attention and improves mood. Cessation of caffeine use can cause withdrawal symptoms that include headaches, drowsiness and irritability.

- **Opioids** are CNS depressants. Reduce pain and induce sleep. Heroin is the most commonly abused opioid.
  - **Endogenous opiates** are the body's natural painkillers. **Exogenous opiates** bind to receptor sites at these locations (brain, spinal cord, bloodstream) and reduce the body's production of endogenous opiates. Someone who stops using exogenous opiates may experience increased pain sensitivity.
  - Relapse is extremely common.
  - **Methadone** is heroin replacement used to reduce the craving after initial withdrawal symptoms have abated.
- **Cannabis**
  - Psychoactive effects of cannabis are caused by the chemical THC. Mimics the effects of naturally occurring substances such as the endogenous opiates.
  - Mild changes in perception along with enhancement of physical experiences. Small doses produces feelings of mild euphoria and more sociable. A sense of wellbeing and relaxation usually begins within minutes of ingesting the drug and lasts for 2-3 hours.
  - Some long term users develop **amotivational syndrome**, a continuing pattern of apathy, profound self absorption, detachment from friends and family, abandonment of career and educational goals.
- **Hallucinogens**
  - People's expectations regarding the effects of hallucinogens appear to play a larger role in determining their reaction. The setting in which the hallucinogens are taken is important as well.
  - Excitatory effect on the CNS and mimic the effects of serotonin by acting upon serotonin receptors in the brain stem and cerebral cortex.

Chapter 12

- **Personality disorder** is an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment.
  - Characterized by a single dominant dysfunctional trait.
  - **Cluster A** in DMS-5 is odd and eccentric disorders; paranoid, schizoid, schizotypal.
  - **Cluster B** in DSM-5 is dramatic, emotional or erratic disorders; antisocial, borderline, histrionic and narcissistic.
  - **Cluster C** in DSM-5 is anxious and fearful disorders; avoidant, dependent, obsessive compulsive.
  - A person with a personality disorder often sees their functioning as **egosyntonic** (not problematic).
  - Diagnostic issues due to low reliability of diagnosis, poorly understood etiology and weak treatment efficacy. Inter-rater reliability and test-retest reliability is important in diagnosing this disorder.
  - Cultural and gender bias can exist in diagnosing (females being diagnosed more often than males).
  - Overlap in the symptom criteria for many personality disorders makes it hard to diagnose reliably.
  - **Dark Triad** refers to a constellation of personality traits that are deemed to be socially aversive.
- Etiology theories of personality disorders:
  - Psychodynamic; parent-child relationship.
  - Attachment theory; children learn how to relate to others, particularly in affectionate ways, by the way in which their parents relate to them. Poor attachment bonds typically lead to deficits in developing intimacy, and are antecedents to violence and antisocial patters in children.
  - Cognitive behavioural; schemas in personality disorder people are rigid and inflexible. Parent modelling is a powerful influence on children's behaviour.
  - Biological; heritability. Reduced prefrontal volume and poor frontal functioning. Cluster A disorders show high genetic links. Cluster B disorders show biological factors and attachment problems as significant causes.
- **Cluster A- odd and eccentric disorders**
  - **Paranoid personality disorder**; pervasive suspiciousness concerning the motives of other people, interpreting what others say and due as personally meaningful in a negative way. Hostile, jealous and preoccupied. Often become socially isolated adding to their persecutory ideas. Genetic link to schizophrenia.

- **Schizoid personality disorder**; show very little emotional responsiveness. They come across as being detached and self absorbed. Do not enjoy relationships. Prefer isolation.
- **Schizotypal persoanlity disorder**; eccentricity of thought (extremely superstitious and believe in magic). Socially isolated. Some similarities with schizophrenia. Pharmacotherapy is normally used to treat these people.

- **Cluster B- dramatic, emotional or erratic disorders**
  - **Antisocial personality disorder**; often come into contact with crime. Referred to as psychopaths, sociopaths or dyssocial personalities. Psychopathy and APD is related by psychopathy is more severe. Personality traits and lifestyle instability are necessary and sufficient for diagnosis. APD is a pervasive pattern of disregard for and violation of the rights of others. Diagnosis is based on nonconformity, callousness, deceitfulness, irresponsibility, impulsivity, aggressiveness and recklessness. **Polythetic** approach, meaning only a subset of symptoms or behaviours is required for a diagnosis. Individuals with APD are differentially response to different kinds of punishment as a result of early learning experiences, rather than completely fearless or unresponsive to all punishment. Treatment should be aimed at symptom reduction and behaviour management rather than at a cure. Pharmacotherapy has yielded limited results, potentially reducing symptoms in the short term but with adverse effects in the long term. May be used to reduce symptoms sufficiently for the individual to participate in cognitive behavioural therapy.
  - **Borderline personality disorder**; fluctuations in mood, unstable sense of own identity and instability in relationships characterizes BPD. More common in women. Biological factors and childhood abuse/neglect are significant factors in the development of BPD. Individuals with BPD have significantly reduced right hippocampal volumes, and reduced volumes of grey matter in the dorsolateral prefrontal cortex. These two regions play a pivotal role in the sustaining and controlling of impulsive and aggressive behaviour.
  - **Histrionic personality disorder**; attention seeking behaviours. Overdramatic in their emotional displays, self centred and constantly attempting to be the centre of attention. Strong need for attention makes them demanding and inconsiderate. Overlap with borderline personality disorder.
  - **Narcissistic personality disorder**; grandiose, think they have unique and outstanding abilities, exaggerated sense of self importance, egocentricity. Easily hurt by the perception that their greatness is not being recognized. Self absorption frequently leads to an obsession with unrealistic fantasies of success. Overlap with borderline personality disorder. High degree of narcissism is related to increased overall internet use.
- **Cluster C- anxious and fearful disorders**
  - **Avoidant personality disorder**; pervasive pattern of avoiding interpersonal contacts and extreme sensitivity to criticism and disapproval. Fear of rejection- disrupts interpersonal relationships, severely restricts job options, academic pursuits and leisure activities. Overlap with social anxiety/ phobia disorder, but differs in the severity of their symptoms.
  - **Dependent personality disorder**; afraid to rely on themselves to make decisions. Seek advice and direction from others, need constant reassurance and seek out relationships where they can adopt a submissive role. In males, depression is common with DPD, whereas with females panic disorder is common with DPD.
  - **Obsessive compulsive personality disorder**; preoccupation with rules and order makes these individuals rigid and inefficient, focussing too much on detail. Avoid feelings and tend to be moralistic and judgemental. Different from OCD because of the absence of obsessional thoughts and compulsive behaviours.
- Object relations therapy approach is where treatment is aimed at correcting the flaws in the self that have resulted from unfortunate formative experiences.

Chapter 13

- Krafft-Ebing published the first strictly medical textbook on sexual aberrations called *Psychopathia Sexualis*.
- Satisfaction with present functioning is an important criterion reflected in DSM-5's definition of sexual dysfunctions.

- Cultural differences in sexuality. Canadians are more permissive than Americans.
- Masters and Johnson were the first investigators to study and document the physiological stages that take place in human sexual response. They noted the changes that occur in the body during sexual arousal, orgasm and the return to the unaroused state. **Sexual response cycle-** excitement, plateau, orgasm, resolution.
- Helen Kaplan's model of sexual stages consisted of desire, excitement and orgasm. The desire component was added to incorporate the psychological role in sexual response. Sexual encounters do not need to follow this sequence.
- **Lifelong sexual dysfunction** is a sexual disorder that has been present since the person began sexual functioning.
- **Acquired sexual dysfunction** is a sexual disorder that develops after a period of normal functioning.
- **Situational sexual dysfunction** occurs in some situations but not in others. Generalized sexual dysfunction would mean the problem is apparent in every situation.
- Bancroft found that a lack of sexual interest was the most common complaint of women attending sex therapy clinics.
- Kaplan reported orgasmic dysfunction to be the most common problem among women.
- **Male hypoactive sexual desire disorder**; there is a lack of interest in sexual activity. Symptoms must be distressing and present for a minimum of 6 months.
- **Female sexual interest/arousal disorder**; woman's sexual interest or arousal is significantly reduced. This is particularly frequent among women during & after menopause.
- Some have criticized the existence of such a diagnosis (hypoactive disorder) as a reflection of culturally imposed standards that are typically male-centred and hyper-sexual.
- **Erectile disorder**; the inability to have or maintain an erection. Symptoms must be distressing and present for a minimum of 6 months. Causes can range between smoking, heart disease and age. Can lead to embarrassment, depression and even suicidal inclinations. The connotations associated with the disorder often times prevents men from seeking treatment and may try home remedies before approaching a professional.
- **Female orgasmic disorder**; the woman is unable to have an orgasm or experiences orgasms that are less intense. Symptoms must be distressing and present for a minimum of 6 months. Kinsey stated that women were more likely to experience orgasm through masturbation than with a partner.
- **Delayed ejaculation**; the man cannot have an orgasm or the orgasm is greatly delayed even though he has an erection and has had a great deal of sexual stimulation. Symptoms must be distressing and present for a minimum of 6 months.
- **Premature ejaculation**; the man ejaculates too soon and feels he cannot control when he ejaculates. Symptoms must be distressing and present for a minimum of 6 months. (In more than 90% of episodes of sexual intercourse, ejaculation happens in less than 1 minute)
- **Genito-pelvic pain/penetration disorder**; any one of four symptoms that typically occur together related to genital pain during actual or attempted sexual intercourse. *Dyspareunia* is painful intercourse. Symptoms must be distressing and present for a minimum of 6 months.
- Etiology of sexual disorders:
  - Hypoactive sexual dysfunction can result from depressive or mood disorders, and their treatment (SSRIs).
  - Kaplan emphasized psychological factors in sexual desire disorders, such as dysfunctional attitudes about sex, relationship problems, and a strict upbringing that associated sexual pleasure with guilt.
  - Variations in key sex hormones (estrogen, testosterone, prolactin) can lower or increase sex drive.
  - Masters and Johnson said **performance anxiety** played a significant role whereby the response of individuals is influenced by how they feel they are expected to perform sexually. When worrying about their performance, they become *spectators* of their own behaviour.
  - Erectile disorder can develop as a result of cardiovascular disease, neurological diseases, various medications, performance anxiety, depression, problems in the relationship, and psychological traumas. Other risk factors are age, diabetes, hypertension, smoking and alcoholism.
  - Loss of androgens may cause erectile dysfunction.

- Orgasmic difficulty can be a result of heart of circulator problems, medications, relationship difficulties, limited sexual techniques, lack of understanding of their own response, partner who does not understand their needs, inability to let go.
- Premature ejaculation can be a result of trauma to the sympathetic nervous system, abdominal or pelvic injuries, prostatitis, urethritis, withdrawal from narcotics. May also be a conditioned response (where boys had to ejaculate quickly when masturbating).
- Pelvic pain disorder can be a result of negative sexual attitudes, lack of sexual education, unpleasant or traumatic sexual experiences, childhood sexual abuse and various cognitive styles associated with anxiety.

- Treatment of sexual dysfunctions:
  - Sex education.
  - Challenging maladaptive ideas about sex.
  - Enhancing communication between partners.
  - Explore own body & masturbate.
  - **Sensate focus** by Masters and Johnson is a form of desensitization of sexual fears. Aimed at eliminating spectatoring.
  - Stop start technique for premature ejaculation.
  - Medication (antidepressants can delay ejaculation, Viagra).
  - **Intracavernous** treatment.
  - Vacuum erection devices.
  - Surgical interventions. Penile implants.
- **Hermaphroditism** is the reproductive structures being partly female and partly male. When the biological variables are consistent, but are discordant with the person's sense of self **gender dysphoria** occurs.
- Gender dysphoria occurs more commonly in children than in adults.
- Gender identity is thought to be minimally influenced by environmental experiences.
- Prenatal exposure to male-typical levels of androgens masculinizes postnatal behaviour, whereas underexposure to male-typical levels of androgens has the opposite effect.
- Heritable factors exist in gender dysphoria.
- Psychoanalytic theories would point to the conflict resulting from a boy's failure to separate from his mother and develop an independent identity.
- Boys and girls diagnosed with gender dysphoria display more behavioural problems and experience more social ostracism.
- Treatment for gender dysphoria:
  - Encourage gender appropriate behaviour among children through psychotherapeutic techniques.
  - Hormonal therapy.
- **Paraphilia** is an intense and persistent interest other than sexual interest in genital stimulation or preparatory fondling with phenotypically normal, physically mature, consenting human partners. Must cause significant distress or impairment to be diagnosed as a disorder, and must pose some kind of personal harm or risk of harm to others when acted upon.
  - **Fetishistic disorder**; recurrent and intense arousal from either the use of a non-living object or a highly specific focus on a non-genital body part. More common in men. The fetishist typically likes to smell or rub the object against his/her body, wear the article or have his/her partner wear it. Fetishes normally develop in childhood.
  - **Transvestic disorder**; cross dressing to produce or enhance sexual excitement. More a male disorder.
  - **Sexual sadism and machoism**; sexual sadism is a preference toward inflicting pain or psychological suffering on others. Sexual machoism describes individuals who enjoy experiencing pain or humiliation from another individual. Diagnosed if it causes significant distress or impairment, or if acted upon with a non consenting person.
- Four paraphilic disorders that constitute a criminal offence:
  1. **Exhibitionistic disorder** (exposure of the genitals to an unsuspecting person)
  2. **Voyeuristic disorder** (secretly looking at naked people)

3. Frotteuristic disorder (touching or rubbing against a non consenting person for the purpose of sexual pleasure)
4. Pedophilic disorder (recurrent fantasies or behaviours involving sexual activity with prepubescent children)

- **Child molester** is an individual who has engaged in a sexually motivated act against a prepubescent child (without any indication of preference), whereas a **pedophile** may not act on their sexual fantasies and display a preference for children.
- Rape was changed in Canadian law in 1983 to three types of sexual assault.
- **Feminist theories** typically see sexual abuse as arising naturally out of the socio-cultural environment of our societies, which they see as essentially patriarchal. Emphasizes the anger toward women, as seen in their efforts to humiliate the victims and to exercise power and control. Higher rates of rape in societies characterized by patriarchal systems.
- **Conditioning theories** of rape.
- **Comprehensive theories** suggest a predisposition for anger and social inadequacy stems from the childhood of offenders. Deviant sexual acts might appeal to males who are lacking in social skills and who are self centred. Sexual offences provide the opportunity to exercise power and control over others. Socio-cultural factors, accidental opportunities and transitory states all contribute to the act of sexual abuse. Transitory states refer to anger, depression, intoxication and boredom.
- Treatment of sexual offenders:
  - Medical; surgical castration, chemical castration (reducing testosterone levels) and pharmacological treatments such as antidepressants. Aim is to eliminate or reduce sexual drive so that the person is uninterested in sex or can easily control the expression of their deviant interests.
  - Behavioural therapy; associating deviant thoughts with a strongly aversive event.
  - Comprehensive programs; addresses sexual offender's tendency to deny or minimize their offending. Work to improve self esteem, enhance empathy, alter offender-supportive attitudes and deviant sexual preferences. Other offence related problems are also addressed such as substance abuse, anger, inability to handle stress etc. *Positive psychology* is taking into the account offender's strengths and helps them to construct a meaningful and prosocial life.
- Benefits of treating sexual offenders is minimizing the number of victims, financial costs associated with police investigations, prosecution of an offender, and imprisonment. Taxpayers pay about $200,000 to convict and imprison each sexual re-offender.

Friday, October 14th

Guest Lecture- Overview of Mood Disorders: Modalities of Management

- PPT posted
- Treating so many disorders separately, when some drugs could be treating the same thing.
- Our diagnosis isn't well defined categories.
- We should have subtypes for disorders such as depression.
- Burden can be measured individually, what the burden is on the individual who is suffering the mood disorder. Or it can be measured globally, what effects the person's mood disorder has on society.
- The treatment for depression and bipolar disorder is very different, yet 3 out of 10 diagnosed with depression actually have bipolar. Misdiagnosis may occur because the patient doesn't remember having a hypomanic episode or the physician may not remember to ask.
- Is it really co-morbidity or is it just part of the disorder? Anxiety is not a symptom required for the diagnosis for depression, yet most people with depression have anxiety. So they are then diagnosed separately and considered "co-morbid."
- Differentiating characteristics of bipolar and unipolar depressions are important in diagnosis.
- The pressure of not recording suicide is huge. There's a hidden number of suicides which we do not see in stats.
- Choosing a medication to prescribe to someone with a mood disorder, is like trial and error. There's no pointers on which medication to choose. Biomarkers would tell us which medications to not prescribe to patients with certain biomarkers.

- Stigma results from people judging others based on their own experiences, for example having been able to pull ourselves out of a sad/depressed mood…so why can't others?
- Internalized stigma (self stigma), is where we try to minimize our mental disorder or convince ourselves it's not really a disorder, thereby preventing ourselves from seeking treatment.
- Hard to change stigma because it's ingrained in us, it's a belief which is hard to change. The young generations should be targeted because there's more success in educating them properly on mental disorders.
- Social stigma vs self stigma.
- Cognitive distortions are recognized but cognitive deficits aren't as acknowledged.

Chapter 14

- Eugenics movement called for sterilization, restriction of marriages and institutionalization to protect society from the threat of disabilities. Was thought to be inherited.
- The medical model emphasized the need for disabled individuals to seek medical care and be institutionalized.
- As institutions became more crowded, challenging behaviours became increasingly difficult for staff to handle and medication became the treatment of choice.
- Late 1950s-early 1960s was a time of major change in the field of developmental disabilities. Civil rights movement in the United States.
- In 1968 the International League of Societies for the Mentally Handicapped adopted the developmental model to guide educational programming.
- The term intellectual disability replaced the term mental retardation in the DSM-5 under the umbrella category of neuro-developmental disorders. Used interchangeably with developmental disability.
- The World Heath Organization cites the prevalence rate of intellectual disabilities in industrialized countries as 3%.
- The cut off point has been changed several times over the years (what IQ is considered mild, moderate, severe or profound). The changes raise the prevalence of intellectual disability in the population.
- Classification systems place a heavy emphasis on IQ scores. IQ tests don't take into account sensory, motor and language deficits.
- Testing for intellectual disabilities has incorporated the assessment of adaptive behaviour which includes communication, daily living or personal living skills, socialization or social interaction skills, and motor skills.
- Acquiescence refers to the tendency of individuals with developmental disabilities to agree in interviews (due to social desirability, motivational and personality factors, cognitive and linguistic limitations). Occurs mostly in situations where answers to questions are not known or when questions are vaguely worded.
- Etiology of developmental disorders:
  - Genetic causes; genetic links have been identified in more than 70% of intellectual and developmental disabilities. Single gene disorders are less common than disorders caused by multiple genes. Three types of inheritance:
    A. Dominant (if one parent of either sex has a defective gene, that gene assumes control over or masks its partner gene and therefore will operate whether an individual gene pair is similar or dissimilar)
    B. Recessive (genes recede when paired with a dissimilar mate and therefore only are influential when matched with another recessive gene carrying the same trait)
    C. Sex linked (abnormal gene is carried on the X chromosome, primarily affecting males)
  - Chromosomal abnormalities; occur as a result of a structural alteration in the chromosome or due to a person having a greater or smaller number of chromosomes. Prenatal screening is possible to detect chromosomal abnormalities. Amniocentesis is a procedure conducted between the 11th and 18th week of pregnancy through an ultrasound, whereby a needle is inserted into the amniotic sac via the pregnant woman's abdomen. A small amount of amniotic fluid is withdrawn and cells contained in the fluid are then cultured in the lab.

- Metabolic disorders; can cause intellectual disability. PKU is an inborn error of metabolism caused by an autosomal recessive gene. A liver enzyme localized on chromosome 12 is inactive, causing an inability to process or metabolize the amino acid phenylalanine. This substance builds up in the brain to toxic levels, leading to intellectual disability. A special diet can be maintained to prevent the most damaging effects of the disorder.
- Prenatal environment; developmental disabilities can result if the fetus is exposed to toxins or infections or if the blood supply lacks nutrients or oxygen. Rubella during the first 3 months of pregnancy can lead to intellectual disability, visual defects, deafness, heart disease and other problems. HIV may be transmitted from mother to infant during pregnancy, delivery or through breast milk. A child with HIV may display symptoms of poor growth, recurring diarrhea and fevers, feeding problems, respiratory problems, pain, cognitive delays and memory problems, distractibility, language and motor impairments, social skill deficits, behavioural problems and loss of earlier attained developmental milestones. Fetal alcohol syndrome leads to growth retardation, central nervous system dysfunction, short eye openings, elongated flattened area between the mouth and nose, thin upper lip, flattened cheeks and nasal bridge, vision defects, heart and kidney damage. *Fetal alcohol effects* are referred to as the alcohol related birth defects and alcohol related neuro-developmental disorders. Early development of the child can also be severely affected by certain drugs. The anticonvulsant Dilantin, chemotherapy and hormone therapy have all been found to have teratogenic effects including facial anomalies, malformed limbs, and a risk of later cancer.
- Extreme prematurity or a lack of oxygen during prolonged or complicated labour can result in developmental problems including visual deficits, cerebral palsy, speech and learning difficulties.
- Postnatal environmental factors; poverty, poor nutrition, large family size, lack of structure in the home, and low expectations for academic success are risk factors in the development of disorders. Children who are given little opportunity to practice cognitive skills or watch adults practising them, do not develop as rapidly as those given ample opportunity and encouragement. Significantly more likely to come from socially disadvantaged families.

• Normalization recommended the utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviours and characteristics which are as culturally normative as possible. In other words, people with disabilities should be given the opportunity to have as normal a lifestyle as possible through participation in activities common to members of society of similar age.
• The United Nations Convention of the Rights and Dignity of Persons with Disabilities highlights the importance of participation and inclusion in society as well as independence of persons with disabilities.
• Diagnostic over-shadowing refers to the perceiving of deviant behaviours to be a function of the developmental disorder while ignoring psychiatric issues.
• Dual diagnosis is the cooccurrence of serious behavioural or psychiatric disorders in people with intellectual disability.
• Autism spectrum disorders are characterized by deficits in: social interaction, verbal and nonverbal interaction, behaviour and interests. Asperger disorder has been viewed as a mild version of autism associated with higher intellectual functioning.
• Gene mapping research has found evidence of autism foci on 20 different chromosomes.
• Reading disorders stem from a core deficit in phonological processing.
• Difficulties with compositional writing skills are the most common type of learning disabilities in children.
• Dyslexia (reading disorder) is both familiar and hereditary. Environmental changes in the form of specific reading instruction can influence neural systems in the brain. fMRI studies show greater reliance on right and frontal hemispheres during reading activities.
• Research into the etiology of mathematics disorders shows posterior parietal areas of the brain being associated with numerical competence.

Chapter 15

- The first forms of research in children's mental disorders were descriptions of children with infantile autism and behavioural manifestations of deficient maternal care and overprotection.
- Mental disorders in childhood are divided into:
    1. **Externalizing problems**; ADHD, oppositional defiant disorder (ODD), conduct disorder (CD).
    2. **Internalizing problems**; separation anxiety disorder (SAD, selective mutism, reactive attachment disorder (RAD), anxiety disorders, mood disorders, disruptive mood dysregulation disorder.
- **Homotypic continuity** refers to a current diagnosis often being predictive of receiving the same diagnosis in the future, or receiving a different psychiatric diagnosis in the future (**heterotypic continuity**).
- Anxiety disorders, conduct disorder, and ADHD are the most common psychiatric disorders among children and youth. 1 out of every 4 to 5 youth.
- Typically anxiety disorders emerge by age 6, behavioural problems by age 11, mood disorders by age 13, and substance use disorders by age 15.
- **ADHD**; motorically and verbally hyperactive, problems maintaining their focus in conversations and activities, show impulsive or erratic behaviours. Based on the main type of symptom that the child presents with, a specifier may be added to the diagnosis. ADHD predominantly inattentive (*ADHD-I*), ADHD predominantly hyperactive/impulsive (*ADHD-H*), ADHD combined (*ADHD-HI*).
    - ADHD-I is more common in girls than in boys and is associated with a greater number of academic problems. The inattentive symptoms are reflected more in areas such as listening, learning and remembering.
    - ADHD-H and ADHD-HI are three times more common in boys than in girls and are associated with higher rates of comorbid conduct problems.
    - 50% of children with ADHD have at least one other psychiatric disorder.
    - The most common comorbid conditions are oppositional defiant disorder (ODD), conduct disorder, learning disorders, anxiety disorders, and in later years depression and substance abuse problems.
    - Risk factors for ADHD:
      a. Abnormalities of the prefrontal cortex (executive functioning) and basal ganglia (motor control, learning, memory, cognition, emotional regulation). Marked delay in attaining peak thickness in the cerebellum (motor control and cognitive functions such as attention). Abnormalities in the metabolism of dopamine (attention) and noradrenergic neurotransmitters and abnormalities in the functioning of genes that regulate these neurotransmitter systems.
      b. Heritability of ADHD is as high as 77%.
      c. Prenatal toxin exposure. "Toxins" include poor diet, exposure to antidepressants, antihypertensives, illicit drugs, alcohol, tobacco, caffeine, mercury, lead, and pregnancy or delivery complications. Increased risk for ADHD has been linked to the exposure of manganese, organophosphates, and phthalates.
      d. Low socioeconomic status, large family size, paternal criminality, poor maternal mental health, child maltreatment, foster care placement, and family dysfunction.
      e. Gene environment interaction; homozygosity for a certain type of dopamine receptor gene that is expressed in the prefrontal cortical regions of the brain was associated with greater risk for ADHD only when children were also exposed to inconsistent parenting.
    - Pharmacological treatments; stimulant medications work by increasing the release of dopamine and norepinephrine from storage sites in nerve terminals and by blocking their reuptake by inhibition of the dopamine transport protein. Stimulant medications include short-acting or long-acting methylphenidate (Ritalin), dextroamphetamine, and amphetamine. Stimulant medications such as atomoxetine act on other neurotransmitters (noradrenaline and serotonin), to increase vigilance and reaction time, short term memory, and learning of new material. Atomoxetine has added benefits of reducing ODD and anxiety symptoms. Side effects of these medications include decreased appetite and weight loss, trouble falling asleep, headaches, and increases in pulse and blood pressure.
    - Psychoeducational interventions; in this intervention the adults responsible for the child are educated about the symptoms, course of the disorder, deficits associated with ADHD, and how they

can facilitate the use of the child's strengths to his or her advantage. Learn about what to expect in terms of tempers and other intrusive impulsive behaviours so that the parent can identify what is within the child's control.

  - Academic skill facilitation and remediation; liaison with teachers or school guidance counsellors helps to identify areas in the child's school day where modifications can occur to accommodate the ADHD symptoms.
  - Parent training; parents learn techniques to help the child modify his or her behaviours by providing consistent rewards and attention when the child completes a task or ceases a negative behaviour.
  - Less convincing evidence for family therapy, CBT, individual psychotherapy or social skills training. Behavioural parent training and behavioural classroom management alongside stimulant medications are the most well established treatment methods for ADHD.
- **Oppositional defiant disorder (ODD)**; frequently argue with adults, have many temper tantrums, deliberately annoy others, and are spiteful and vindictive. They do not take responsibility for their actions, blaming others for their outbursts and rude behaviour. Generally diagnosed by 8 years old. What differentiates conduct disorder from oppositional defiant disorder is that behaviours displayed by the child or youth with conduct disorder violate the basic rights of others or major societal norms/rules. ODD symptoms are organized into groupings to distinguish irritable mood from defiant behaviours. DSM-5 grouped symptoms into three types: angry/irritable mood, argumentative/defiant behaviour, vindictiveness.
  - **Conduct disorder (CD)** is organized into four groups in the DSM-5: aggression directed toward people and animals, destruction of property, deceitfulness or theft, serious violation of rules. Some children with CD display psychopathic tendencies, in that these children show a general disregard for others and are not distressed by their negative behaviour, showing little if any remorse for their indiscretions. Three subtypes in the DSM-5 of CD: childhood-onset type, adolescent-onset type, unspecified onset. Individuals diagnosed with childhood-onset CD have at least one core symptom before age 10.
  - **Assortative mating** refers to females with CD who tend to date/marry males with CD.
  - ODD is predictive of major depression (emotional disorders). CD is predictive of antisocial personality disorder (APD), bipolar disorder, and substance abuse issues (behavioural issues).
  - Etiology of ODD and CD:
    a. Strong genetic basis for antisocial and aggressive behaviour. Children with parents who have a history of antisocial behaviour are more likely to be diagnosed early with CD than are children without an antisocial parent. Genes transmitted & the environment being less nurturing.
    b. Aggression is associated with decreased glucose metabolism in the frontal lobe, and damage to the orbital and ventrolateral prefrontal cortex. Damage to the amygdala (emotion centre of the brain) has also been linked to impulsive aggressive behaviours. Aggression is associated with serotonergic abnormalities such as reduction in the turnover of serotonin. Low epinephrine has been linked to conduct disorders, as has low salivary cortisol. Aggression is related to the underarousal of the autonomic nervous system especially in psychopaths.
    c. Individual factors linked to conduct problems: early difficult temperament, poor executive functioning, low IQ, reading disorders, lack of empathy, poor social cognition.
    d. The in utero environment has consistently been linked to conduct problems. Maternal smoking and substance abuse is predictive of CD.
    e. Psychosocial factors such as poor parenting, low monitoring, harsh and inconsistent discipline and child abuse is strongly linked to externalizing difficulties in children and youth. Other correlates include peer rejection, associating with deviant peers, parental psychopathology, lone parent families, large family size, and teenage parenthood.
    f. MAOA is a gene that produces the enzyme that breaks down neurotransmitters like serotonin, norepinephrine and dopamine and in doing so, renders them inactive. 80% of individuals who were severely maltreated in childhood and had low MAOA activity had conduct disorder.
  - Treatment methods for ODD and CD:
    a. Problem solving skills training; modelling and practice, role-playing and reinforcement contingencies.

b. Pharmacological treatment; mood stabilizers (such as Lithium) was found to be an effective short term therapy for inpatient aggressive children and adolescents. Risperidone (neuroleptic/anti-psychotic) and methylphenidate (stimulant) has been shown to be associated with improved symptoms in outpatients. Atypical neuroleptics appear to be the most promising pharmacological intervention.
c. Parent training; **coercive process** is where interactions between the parent and child are considered to maintain and promote conduct problems inadvertently. The child's negative behaviour (such as whining or crying) functions to diminish the negative behaviour of the parent (conflict with family members). Parent training serves to develop new skill sets in parents that promote prosocial behaviour while also applying effective discipline techniques to minimize the negative behaviour.
d. School and community based treatment; student volunteers are trained to identify conflict among peers and to intervene quickly and appropriately. The idea is that intervening early in the cycle of conflict should help to reduce the changes of it escalating into something more serious. Peer mediators monitor the school playground and classroom during times of low surveillance by adults.

- When fear is age-specific and the intensity is proportional to the perceived threat, it is considered developmentally appropriate. Excessive levels of fear however, falls under the category of anxiety disorders, termed **separation anxiety disorder (SAD)**. The most obvious symptom associated with SAD is distress when separated from the attachment figure. Children with SAD constantly worry that something terrible will happen to their parents or other family members. They are fearful of new situations and of meeting new people, as these are unknowns that create a heightened sense of insecurity. Most children with SAD withdraw or appear timid as a means of reducing their exposure to distressing situations, but others can become angry and irritable or throw tantrums when forced to confront situations that heighten their fear.
  - 3 symptoms that must be present for a minimum of four weeks: recurrent distress upon separation from a parent, excessive worry about losing a parent, excessive worry that an event will lead to harm to the parent, reluctance to go places without the parent in proximity, reluctance to sleep away from the parent, nightmares about separation or complaints about physical symptoms when separation is anticipated.
  - Generalized anxiety disorder (GAD in childhood) is diagnosed when: the child has many different types of worries or apprehensions, he or she finds it very difficult to control his or her worries, his or her worries are accompanied by physical symptoms (tired, restless, easily fatigued, irritable, tense). Child must have these problems for 6 months and only one accompanying physiological symptom to be diagnosed. GAD is concurrent with SAD.
  - Research suggests that the developmental chronology of childhood disorders is one that begins with anxiety in early childhood, is followed by behavioural issues in middle childhood, and is then followed by depressive disorders in late childhood. Early psychopathology is a strong predictor of later mental health issues. Despite many children growing out of their anxiety disorders, it is important to monitor these children, given evidence for both homotypic and heterotypic continuity among a subset of this population.
  - Etiology of anxiety in children and adolescents:

    a. Temperament; history of anxious temperament in infancy and early childhood. Anxious temperament is described as **behavioural inhibition** where children display withdrawal or fear behaviours in novel situations.
    b. Those with behavioural inhibition or anxiety disorders have abnormal functioning in a temporal lobe structure (amygdala) that alerts a person to threat and orchestrates the response to it. Higher resting heart rates and blood pressure (physiological hyperarousal) and abnormal stress hormone regulation.
    c. Genetics. Environmental experiences contribute to stable and predictable differences in levels of anxiety and depression.
    d. Prenatal risk factors; stress during pregnancy makes a child significantly more likely to have problems with anxiety, learning and attention. Effect of elevated levels of maternal stress hormone cortisol on the developing brain.

e. A child learns what and how to fear from the parent either vicariously or through instructions given by the parent. Children can also learn fear directly based on experiences in which they have been hurt or frightened (classical conditioning).

- Treatment:
  a. CBT; extensive education about anxiety and its treatment approach, helping the parents and child learn new ways to cope with anxiety, and systemic and gradual exposure to anxiety provoking situations in which they can practice their skills.
  b. Pharmacological; SSRIs (fluvoxamine, paroxetine, fluoxetine). Efficacious at reducing anxiety symptoms.

Chapter 16

- As people age they are more likely to experience increased vulnerability both physically (as various organ systems begin to be compromised) and psychologically (with losses in areas such as social support due to deaths of friends and relatives, and independence due to lost driver's licences, increased hospitalizations or relocations from home).
- Evidence of positive mental health among older adults who would normally be considered vulnerable has been termed the **paradox of aging**.
- People becoming more resilient over time is referred to as a **period effect**. Certain cohorts of individuals born at a particular time being more resilient is referred to as a **cohort effect**.
- **Polypharmacy** is the concurrent use of multiple medications.
- The **selective optimization with compensation** model holds that even within the context of normal aging and in the absence of pathology, old age brings losses of abilities and skills. According to SOC successful aging entails: selecting goals and goal priorities, optimizing resources that facilitate these goals, compensating for losses by creatively using alternative means to achieving one's goals despite limited capacities.
- The **socio-emotional selectivity** theory assumes that when we see time as unlimited, our goals will be future-oriented and we will focus our energy on seeking information and expanding our knowledge and horizons. In contrast, when we perceive our time as limited our goals become focused on short term and emotionally meaningful matters. "Positivity effect", older adults focus less on negative information.
- The **strength and vulnerability integration** theory posits that aging is associated with an increased ability to regulate emotions.
- Older men are 5 times more likely than older women to commit suicide. Among older adults a number of factors increase the risk of suicide: prior suicidal behaviour, mental illness and addiction, personality disorders, poor social support including being divorced or widowed, recent negative life events such as financial or social losses, impairment in the ability to carry out the activities of everyday life, chronic pain conditions.
- Medical illnesses such as cardiovascular disease, pain and parkinson's disease are conditions that increase the risk of depression and are more prevalent among older adults.
- Older adults' reduced likelihood of reporting sadness when depressed may contribute to why they are less likely than younger adults to meet diagnostic criteria for MDD. Another diagnostic issue is that depression and early onset **neurocognitive disorders** are very difficult to distinguish from one another because both have prominent mood and memory problems. General diagnostic issues faced by physicians include: time constraints which makes it difficult to attend to verbal and nonverbal signs of depression, complexity of later life depression including the vague symptoms and patients' lack of knowledge about depressive symptoms, lack of specific diagnostic criteria for older adults, physical comorbidity masking depressive symptoms, and a lack of knowledge about available and effective treatment options for older adults.
- When polypharmacy is an issue for older adults, the interactive effects of multiple medications (**drug interactions**) can have unknown and dangerous consequences.
- The primary complaints by older adults with regards to sleeping problems are: light sleep, frequent awakenings during then night, decreased time spent asleep, awakening too early in the morning, and sleepiness during the day. Sleep disturbances often appear as a result of medical problems.
- Age related changes in sleep:

a) Changes in EEG activity; stage 2 EEG activity is less synchronous than in young adults. The slow waves in stages 3 and 4 are lower in amplitude and there are fewer of them.
b) Changes in the organization of sleep stages; although number of REM sleep periods does not change, success REM periods no longer increase in length.
c) Changes in the circadian rhythms; older people may nap more and get up earlier in the morning.

- Three most common sleep disorders in older adults:
  - **Insomnia**; norturnal symptoms include difficulty falling asleep, frequent awakenings, shortened sleep and non-restorative sleep. Daytime symptoms include fatigue, sleepiness, depression, and anxiety. The DSM-5 requires symptoms to be frequent, persistent, distressed and not explained by lack of opportunity to sleep or other mental or physical health problems. Various possible contributing factors of insomnia: physical disorders, substances, circadian rhythm problems, psychological factors, and poor sleep environment or habits.
  - **Restless legs syndrome**; characterized by the urge to move one's legs accompanied by unpleasant sensations in them, the urge and unpleasant sensations being worse during periods of inactivity, movement relieving the urge and unpleasantness, the urge to move and unpleasant sensations being worse in the evening and night. More common in women.
  - **Sleep apnea**; episodes of cessation of breathing that last at least 10 seconds. Diagnosis requires that there be at least 5 such episodes per hour of sleep. Sleep apnea results in hypoxemia (low blood oxygen saturation) and awakenings from sleep. More common in men. Sleep apnea can be due to obstruction of the upper airway (generally indicated by snoring), impairment of respiratory control by the CNS (heart or renal failure, or opioid use), and sleep-related hypoventilation where respiration is decreased due to medical conditions or medications or obesity. Treatments for sleep apnea include: losing weight, avoid sleeping on one's back, avoiding respiratory depressants such as alcohol and hypnotic medication, and respiratory stimulants to help breathe or a mask attached to an air compressor.
- The three most common anxiety disorders in later life are social phobia, specific phobia, and generalized anxiety disorder.
- Symptoms of schizophrenia either disappear or decrease substantially over time in a significant amount of individuals, showing a decrease in positive symptoms and an increase in negative symptoms. **Late onset schizophrenia** is less common and develops after age 40 (majority are women). Late onset patients are more likely to have hallucinations and delusions which are more florid and bizarre (persecutory delusions).
- **Delirium** is reduced or clouded consciousness, including fluctuating impairments in attention and orientation. The individual may move back and forth from lucidity to severe confusion. Incoherent speech, marked memory impairment and confusion over simple things. Various conditions (*metabolic*-hypothyroidism, nutritional deficits, *infectious*-tuberculosis, HIV, *structural*- Parkinson's, dementia, head injury) and surgery can precipitate its onset. Because patients may fade in and out of delirium and are not likely aware of their own needs and may get easily upset or agitated, the general approach to treating delirium includes maintaining a carefully controlled and simple environment, monitoring the patient's nutritional and fluid status, and minimizing the number and amount of medications being taken.
- **Neurocognitive disorders** (replaced the term dementia in the DSM-5); cognitive impairment resulting in loss of memory, language, visuospatial, and reasoning abilities. Only present in younger people as a secondary to another disorder. As a primary mental disorder, it is one of old age (more prevalent among women). Causes of neurocognitive disorders: Alzheimer's disease, vascular disease, frontotemporal lobar degeneration, Lewy body disease, Parkinson's disease, Huntington's disease, prion disease, HIV, traumatic brain injury, substances/medications, and other medical conditions.
- **Pseudo-dementia** is used to describe disorders that produce cognitive impairment that can be reversed.
- Cortical dementias primarily attack the cerebral cortex or grey matter. Subcortical dementias primarily attack the white matter and more primitive parts of the brain that are closer to the brain stem. This distinction is useful clinically because depending on what brain regions are affected, different symptoms will be prominent.

- *Cortical dementias*; problems learning new information, loss of short term memory, visuospatial problems, language problems, poor reasoning and judgement.
- *Subcortical dementias*; cognitive slowing, problems retrieving information from memory, difficulty with executive functioning (reasoning, judgement, mental flexibility).

- Individuals with **mild cognitive impairment** are at very high risk of developing NCD. Lifestyle modifications such as avoiding high blood pressure, maintaining low levels of cholesterol, eating a healthy and balanced diet, and engaging in exercise may have an impact in lowering the risk of developing NCD.
- **Alzheimer's disease**; progressive, fatal, neurological disease with an average course of at least 6 years from diagnosis to death. In the early stage individuals with AD exhibit memory difficulties, problems with concentration, unclear thinking, and mild difficulty finding words. During the middle stage existing symptoms become more severe and a wide range of additional symptoms may occur such as amnesia, aphasia (language difficulties), apraxia (difficulty with purposeful motor movements) and agnosia (difficulty recognizing or naming people or things). In the late stage language and memory impairments are profound (stooped posture, increasing immobility, total incontinence, increasing vulnerability to conditions such as pneumonia and heart failure).
  - In the brains of those with AD, there is excessive amounts of plaques (collections within a nerve cell of nerve cell and supportive tissue debris suspended in a protein substance called amyloid) and neurofibrillary tangles (clusters of intertwined filaments in nerve cells that in the normal brain are not tangled).
  - Substantial atrophy of the cortex in AD brains.
  - Strong genetic influence.
  - Certain form of the Apolipopritein E (APOE) gene has been shown to increase the risk of developing AD, especially in women.
  - Non genetic risk factors of AD include: vascular related factors (high blood pressure, high cholesterol, cardiovascular problems, diabetes, stroke), depression, head trauma, lifestyle factors (poor nutrition, alcoholism, lack of regular physical activity, smoking), exposure to environmental toxins (pesticides, solvents, aluminums, mercury), lower levels of education, and manual labour jobs.
- **Vascular disease** (cerebrovascular damage); the arteries that supply the brain are partly blocked. When blood flow is reduced beyond a certain point a stroke occurs. An area of damaged cortex due to vascular damage, referred to as **brain lesion** or infarction, can lead to NCD. More common in men. Can be diagnosed with the aid of neuroimaging. Sudden onset. Often have a history of stroke or stroke risk factors such as obesity, diabetes and being a smoker. Treatment often focuses on managing the risk factors for future cerebrovascular events, such as lifestyle changes and medications (blood thinning medication).
- A key pathological change in the brains of patients with Parkinson's disease is filaments of protein with a dense core called Lewy bodies. The diagnosis of NCD with Lewy bodies involves the following symptoms: fluctuating cognition with pronounced variations in alertness and attention, recurrent well formed hallucinations, spontaneous features of Parkinsonism like slowed body movement and muscle rigidity and resting tremor and postural instability. Treatments for this type of dementia often focusses on the proper medication management of Parkinson's symptoms with levodopa. Cholinesterase inhibitors are also effective.
- Patients with frontotemporal NCD experience changes in personality (disinhibition, impulsiveness, repetitiveness, poor judgement, social inappropriateness, loss of empathy, apathy and reclusiveness), but have relatively intact memory function until later in the disease process.

<u>Chapter 7 (not on exam)</u>

- Three body systems are responsive to psychosocial variables: endocrine system, autonomic nervous system, immune system.
- **Endocrine system;** consists of organs that manufacture hormones and when the occasion is right, secrete them into the bloodstream. Hormones are biologically active substances that circulate in the

blood until they reach a target organ such as the heart, liver or bones, where they will cause certain changes.

- **HPA axis** begins with the hypothalamus (brain structure that controls a large number of body functions) and is responsive to psychosocial influences. When activated it can cause the pituitary gland (which it is connected to by nerve fibres) to secrete a substance called adrenocorticotropic hormone (ACTH) into the circulation. The targets for ACTH are the cells in the adrenal cortex (the outer layer of the adrenal glands located above the kidneys). When they tissues are stimulated, they secrete a substance called cortisol (or glucocorticoid) into the circulation. Cortisol can suppress inflammation, mobilize glucose from the liver, increases cardiovascular tone, produces immune system changes and inhibits other endocrine structures. These features of glucocorticoid are a defence mechanism. In the short term they promote immediate survival and inhibit unnecessary activity.
- With prolonged secretion, glucocorticoids suppress immune system function, enhance the development of atherosclerosis, and contribute to neuronal damage in the brain which contributes to the intellectual decline associated with dementia.
- Cortisol released during stress plays an important role in the development of abdominal obesity, in that fat cells in the abdominal region have a high concentration of receptors for glucocorticoids. When activated by glucocorticoid release, enzymes are activated that increase the storage of fat within these cells.
- Cortisol also plays a role in the increasing production of fat cells.

• Social behaviours have important stress-modifying effects.
• Social status has an effect on longevity through some of the stress-related physiological effects with which it correlates.
• People who have an *internal locus of control* see themselves as the masters of their own destiny, whereas those with an *external locus of control* see themselves as being buffeted by the random events of the world. There is evidence that an internal locus of control protects against the harmful effects of stress on health.
• Jobs that combine high demands with low control such as a waiter are said to be *high strain* occupations and differ from *low strain* occupations like a night security guard. High strain has been shown to be associated with increased risk of morbidity and mortality due to cardiovascular disease. 1.5-5 times more likely to develop coronary heart disease over a 10 year period.
• **Infectious disease**; studies have shown that those with higher perceived stress and negative affect (tendency to experience unpleasant emotions) were more likely to have clinical evidence of a cold and to show “hard” immune system changes indicative of infection, than were people with lower stress. Long standing difficulties associated with work (particularly unemployment or underemployment) and with interpersonal relationships (such as marital difficulties or grudges) were the main stressors that predicted cold symptoms.
• **Ulcer**; erosion of the lining of the stomach or duodenum. The digestive juices, one of which is hydrochloric acid, are produced and secreted in the stomach in order to digest food. They are highly corrosive to living tissue, including the stomach itself, which is normally protected by a mucosal lining. Ulcers occur when the digestive fluids penetrate the lining, leaving the stomach or duodenal wall defenceless against their corrosive action.

  - Hypersecretion of digestive acid appears to be an important factor contributing to the development of ulcers. Psychological distress is associated with increased secretion of gastric acids.
  - Various brain regions involved in the regulation of emotional states are crucial for the development of ulcers. The amygdala is known to influence bodily responses to stress by activating neurosecretory cells of the hypothalamus, thereby eliciting neuroendocrine and autonomic responses.
  - Predictability and controllability of stressor aspect in developing more lesions. Lack of control mediates the effects of stressful events.
  - Certain bacterias are activated during stress exposure.

• **Cardiovascular disease**; disease of the heart and blood vessels, leading cause of death and disability. The two disease states that account for the most deaths: **ischemic heart disease** (blood supply to the heart becomes compromised), **myocardial infarction** (heart attacks and stroke, in which the the blood

supply to the brain is interrupted leading to death of neural tissue). The cardiovascular system provides nutrients and oxygen to all tissues of the body and serves as a highway for the elimination of waste products. To do this, the heart acts as a pump delivering blood through an extensive branching network of arteries, arterioles, capillaries, venules and veins called the **vasculature**. The heart is like the pump and the vasculature is the hose.

- Blood pressure is a consequence of two major variables: **cardiac output** (the amount of blood pumped by the heart) and **total peripheral resistance** (the diameter of the blood vessels). The cardiac output is determined by the rate at which the heart beats and the amount of blood ejected on each beat.
- Activation of the sympathetic system affected beta-adrenergic receptors on the heart will speed up its rate, producing an increase in cardiac output, and consequently in blood pressure. Activation of other components of the sympathetic system affecting alpha-adrenergic receptors can cause constriction of the blood vessels, yielding an increase in blood pressure. Feedback mechanisms allow the hypothalamus to regulate blood pressure.
- Deaths due to myocardial infarction can result from disturbances in the normal pumping rhythm of the heart (**arrhythmias**) or from comprised supply of blood to the heart itself.
- Dietary factors such as frequent consumption of fat and cholesterol make lipids (blood fats, especially cholesterol) available for plaque formation. High blood cholesterol and cigarette smoking are considered major controllable risk factors for cardiovascular disease.
- Exercise is a protective factor.
- **Hypertension** (blood pressure reading of more than 140/80) which is a high level of resting blood pressure, is a major risk factor in cardiovascular disease.
- People who are always trying to achieve more and more in less and less time (hyperalertness, time urgency, job involvement, competitiveness) are twice as likely to die from heart disease than those who are calm and relaxed.
- Hostility was the number of characteristic which was correlated with a significant increase in the likelihood of heart disease and death. Hostility: *affective* (tendency to respond to situations with anger and contempt), *cognitive/attitudinal* (tendency to view others with cynicism and to impute bad intentions to them), *behavioural* (direct and subtle aggressiveness and antagonism). Hostility is said to lead to health risk because hostile people:
  1. experience exaggerated autonomic and neuroendocrine responses during stress
  2. experience a more demanding interpersonal life than do others
  3. as a result of their own behaviour construct a social world that is antagonistic and unsupportive (lack of social support increases the vulnerability to heart disease)
  4. more likely to engage in unhealthy behaviours (smoking, drug use, high fat diet)
- Depression is associated with an approximate 60% increase in risk of developing heart disease.
- Smoking, measure of blood lipids, high blood pressure, diabetes, abdominal obesity, low consumption of fruits and vegetables, lack of consumption of moderate amounts of alcohol, low physical activity and psychosocial factors accounted for more than 90% of the risk of heart attack.