

# Schizophrenia

# Schizophrenia: Origin of the Concept

- Emil Kraepelin- German Psychiatrist(1856-1926) was the first to systematically study and construct an abnormality pattern called “*dementia praecox*”, which broadly correspond to today what we call schizophrenia
- Eugen Bleuler- Swiss psychiatrist (1857-1939) was the first to coin the word *schizophrenia*, “Schizien” in German means “split” and “phren” in Greek meaning “mind”,
- Bleuler primarily described a behaviour pattern characterised by (i)disorganisation of thought processes-disturbance in thought,(ii) lack of coherence between thought and emotion(thinking something but showing emotion not related to the thinking), (iii) and inward orientation away(split) from reality-withdrawal from reality

# Schizophrenia: Prevalence

- Schizophrenia is as prevalent as epilepsy.
- A study by Gottesman (1991) shows that nearly one in 100, i.e. 1% people will after the age of 55 exhibit such abnormal behaviour (this is the average risk factor, statistically speaking).
- Some groups have higher risk of developing such abnormal behaviour:
  - Children of schizophrenic parents (several studies)
  - Children of older parents (aged 45-50) - Byrne et al, 2003
  - People of Afro-Caribbean origin (Harrison et al, 1997)
  - People of Ireland and Croatia (Gottesman, 1991)
  - Males develop more severe form of schizophrenia than females (Leung & Chue, 2000)

# Schizophrenia: Onset

- Vast majority of cases of schizophrenia begin in late adolescence and early adulthood
- About 75% occur between the ages of 14-45
- Schizophrenia develops earlier in males than in females
- The average age of onset of schizophrenia is around 25 years for men and around 29 years for women

# Schizophrenia: Symptoms

- Three categories of symptoms:
- Positive Symptoms are those which reflect an addition to normal repertoire of behaviour and experience such as Delusions and Hallucinations
- Disorganised Symptoms- Bizarre (sometimes catatonic) Behaviour and Disorganised Speech
- Negative symptoms refer to absence or deficits of behaviors that are normally present in a person's repertoire such as emotional expressiveness, communicative speech or reactivity to environmental events – Examples of negative symptoms are Emotional Flattening, poverty of Speech, Asociality, Apathy, Anhedonia

# Schizophrenia Positive

## Symptoms : Delusions

- Delusion is essentially an erroneous belief that is fixed and firmly held despite clear contradictory evidence-disturbance in thought content-what he /she thinks or believes
- Comes from Latin word *ludre*, which means “to play”. In other words, tricks are played on the mind- involves disturbance in content of thought-what he thinks and believes
- *All people suffering from delusions are not schizophrenic, but delusions are common among schizophrenics.*

# Schizophrenia Positive

## Symptoms : Hallucinations

- A hallucination is a sensory experience that occurs **in absence of** any external stimulus
- *(In contrast , delusion is misinterpretation of stimulus that actually exists )*
- *Hallucination is disruption of perception , where as delusion is disturbance of thought content*
- Auditory hallucinations- hearing voices(75% patients report such behaviour)
- Visual hallucinations-seeing enemies when they are not actually present(read the case study the beautiful mind- in the movie by the same name, Nash would “see” his enemies shadowing him wherever he went)
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# Disorganised Symptoms

- Disorganised Speech-Disorganised speech is the external manifestation of a disorder in thought form
- Basically the affected person fails to make any sense in verbal communication- grammar and sentence structure may be correct , but the listener is left with no understanding.
- Disorganised Behaviour- Schizophrenic patients exhibit deterioration in performance of routine daily functioning such as work, social relations, and self-care . Sometimes such behaviour is best describes as bizarre

# Disorganised Symptoms

- Catatonic Behaviour : A patient with catatonia may show absence of all movement and speech – he/she relapses into a state of what they call *catatonic stupor*

# Negative Symptoms

- *Emotional Flattening-Flat or blunted emotional expressiveness (no variation in emotional expression depending upon the situation)*
- *Poverty of Speech: Alogia- very little speech*
- *Avolition- absence of “will”-no ability to initiate or persist goal-directed activities(making efforts to get food etc)*
- *Asociality,- lack of interest and ability to foster social relations*
- *Anhedonic-lack of interest in living and/or pleasures of life, a loss in the ability to enjoy things*
- *Apathy-condition marked by lack of interest in others*

# Schizophrenic Types

• *All schizophrenic patients do not necessarily exhibit all the components of the three categories of symptoms. Most patients exhibit both negative and positive symptoms. However, depending on the frequency of occurrence of the symptoms and in combination with each other, DSM-IV has recognised the following sub-types of schizophrenia:*

- *Paranoid Type*
- *Disorganised type*
- *Catatonic Type*
- *Undifferentiated type*
- *Residual Type*

# Paranoid Types

- Half of the schizophrenic patients could be placed into this sub-type
- The paranoid schizophrenic shows increasing suspiciousness of relatives or associates. He may complain of being watched, followed, poisoned, talked about, or influenced by various tormenting devices used by 'enemies' –prosecutory delusions
- In addition, he/she may have delusions of grandeur- he/she may claim to be greatest economist or philosopher, prominent person of the past
- He may construct a 'story' from his delusions of grandeur to justify his delusion of prosecution(e.g. he/she being the greatest scientist , the enemies are after him)

# Disorganised Type

- *Disorganised Schizophrenia occurs fairly early age- in school the patient becomes seclusive and more preoccupied with fantasies.*
- *As disorder progresses the patient may exhibit-*
- *Emotional indifference and infantile behaviour*
- *A silly smile and inappropriate, shallow laughter after little no provocation*
- *Incoherent speech, may include baby talk, childish giggling, inventing new words(neologisms)*
- *Hallucinations and delusions may be present*

# Disorganised Type(contd.)

- *disruption in their ability to perform routine activities, -they have inadequate ability to take care of themselves*
- *Exhibit bizarre behaviour-odd facial grimaces, talking and gesturing to themselves, sudden or inexplicable laughter and weeping, unusual interest in urine and feces, obscene behaviour*
- *Occasional hostile and aggressive behaviour*

# Disorganised Type(contd.)

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- *Occasional hostile and aggressive behaviour in connection with their fantasies, but indifferent to real life situations*

# Catatonic Type

- The catatonic schizophrenic exhibits exaggerated /pronounced motor signs or stupor
- Some of them will automatically obey commands or imitate actions of others-echopraxia
- They mimic other's phrases-echolalia
- Some of them raise their arms in awkward positions for a long time
- They talk excitedly and incoherently, pace rapidly back and forth, attempt self-mutilation, attempt to attack and kill others.

# Undifferentiated Type

- *Typically the schizophrenic does not exhibit any pronounced symptom which can lead us into putting him in either catatonic, paranoid or disorganised type*
- *He exhibits varying combinations(mixed –symptoms) of delusions, hallucinations, disordered thoughts and*
- *bizarre behaviour*
- *But he does not clearly fit into one of the types*
- *Some patients , in early stage of the onset, exhibit symptoms of one category, but later on of different category (ies)*

# Residual Type

- *It is category for patients who have suffered at least one episode of schizophrenia*
- *Now they do not show any prominent positive symptoms such as hallucinations, delusions, or disorganised speech or behaviour*
- *They mostly exhibit negative symptoms like flat affect etc*
- *Odd belief, eccentric behaviour-mild form of positive symptoms may be there*

# Etiology(Causes) of Schizophrenia

- *A complex interplay /interaction of genetic and environmental factors lead to schizophrenic behaviour*
- *No one factor will probably explain why schizophrenia develops- it is multi-causal*
- We will study the following type of factors:
  - Genetic Aspects
  - Prenatal Exposure
  - Biological Aspects
  - Psychosocial and Cultural Aspects

# Genetic Aspects

- It is well known that schizophrenia tend to “run in families” .
- There is evidence that higher-than-expected rates of schizophrenia among biological relatives of schizophrenic patients
- There is close association between closeness of blood relationship(level of gene sharing or consanguinity) and the risk of developing schizophrenia
- The prevalence of schizophrenia in the first-degree relatives(parents, siblings and offspring-who share 50% genes) of a schizophrenic is about 10%,
- Among second-degree relatives( half-siblings, uncles, nieces, nephews, and grandchildren- who share 25% genes) , the prevalence is 3%

# Genetic Aspects: Twin Studies

- From the twin studies it has been found that the concordant rates (if one suffers schizophrenia, the other will develop the same abnormality) of schizophrenia for identical twins are significantly higher than those for fraternal twins

# Genetic Aspects: Twin Studies

- Torry et al(1994) carried out a review of world wide twin studies
- They found that the concordant rates for MZ (monozygotic) twins is 28% and that for DW (Dizygotic) twins is 6%
- This implies the reduction in shared genes from 100%(MZ twins) to 50% (DZ twins) reduces the risk of schizophrenia by 80%

# Genetic Aspects: Adoption Studies

- Twin studies assume that the difference found between MZ and DZ twins are attributable to genes
- It assumes that the environments of MZ twins and DZ twins are similar
- But in reality it is not necessarily true; to that extent, these studies overestimate the influence of genetic factors
- To overcome this problem, researcher started adoption studies
- Adoption studies attempt to separate the heredity and environmental influences

# Genetic Aspects: Adoption Studies

- Huston (1966) was the first to carry out comprehensive adoption research
- He followed up 47 children who were born to schizophrenic mothers. The children were placed with relatives or foster homes within 72 hours of their birth.
- He found that 16.6% of these children developed schizophrenia
- In contrast, 50 children of born of normal mothers who were placed with relatives and foster homes

# Prenatal Exposures

- Researchers are trying to find out the factors that cause or trigger the disorder in genetically vulnerable person. the factors include:
  - Prenatal viral infection
  - Rhesus incompatibility
  - Early nutritional deficiency
  - Prenatal birth complications

# Biological Aspects

- Brain volume
- Specific Brain areas
- Neurochemistry

# Psychosocial Factors

- Damaging Parent-child and family Interactions
- Families and relapse
- Excessive life stress

# Socio-cultural Factors

- Urban Life
- Immigration
- Cultural misunderstandings ,  
social discrimination



**Thank You!!!**