

Autumn 2016

# Schizophrenia

PSX\_002 Clinical Psychology - PhDr. Pavel Humpolíček, Ph.D..

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Presentation:

<https://prezi.com/2lbl2vyvci6z/schizophrenia/>

## **Treatment throughout History**

In Antiquity, Schizophrenia, and general mental health issues were referred to as 'madness'. Hippocrates was one of the first to talk about mental illness in a 'scientific' way; rather than attributing it to spiritual imbalance as early shamans had, he attributed mental health difficulties to biological imbalances; in particular, an imbalance of one of the 'four humours'; black bile, yellow bile, phlegm and blood.

He treated it with a much more 'medical', 'scientific' approach than it had been treated with in the past, using treatments that affected the soma rather than the psyche, for example bloodletting or a change in diet. The 'Hippocratic Diet', as it became known, is still used today, particularly in Western countries such as the USA. This approach continued to develop during the reign of the Roman Empire, with Roman philosophers beginning to attribute mental health conditions to emotional disturbances as well as somatic disorders.

Unfortunately, at the end of the Greco-Roman era, after the fall of the Roman Empire, the way that the general public viewed mental illness reverted back to the historical idea that it was a religious affliction, caused by sinning or not adhering to biblical teachings. An example of this is the biblical story of King Saul, who developed 'madness' after his sinning, and could only be saved by an agent of God.

Although society, mechanics and living standards changed and evolved rapidly throughout the Middle Ages and the Renaissance period, treatment for those who suffered from mental illness did not. Europe's first, and oldest institution to treat the mentally ill, Bethlem Hospital, later known colloquially as 'Bedlam' is a

typical example of the types of institutions the mentally ill, disabled or criminals were committed to during this period. They were kept in large rooms with little to no sanitation, and, if particularly disruptive or ‘dangerous’, were kept chained in shackles attached to floors or walls. The treatment in these hospitals came directly from the monks who ran them; Bethlem Hospital, like many treatment centres of their time, was an extension of a monastery, and religious teachings were used extensively, with little documented success. Wealthy nobility would often visit Bethlem to view the patients committed there, as a form of daytime entertainment.

The ‘Hippocratic Diet’ was also used widely in these institutions, with patients receiving their sustenance from plain meals such as bread and clear soups, to ensure that the patients experienced as little external stimulation as possible.

In Europe and the USA during the Renaissance period, particularly in Continental European countries such as France, those who were mentally ill, including those who were Schizophrenic were burnt at the stake. This approach to the mentally ill was a relatively common approach to the ‘treatment’ for those who were suffering from ‘madness’ (psychosis). Some were also convicted of being witches, another crime for which the punishment was being burnt alive.

The treatment was considered appropriate as it committed those who were ‘sinners’, and who society felt were behaving in such a way as to be representative of the devil on earth, to the ‘eternal fire’ (hell); showing again how religion was still a vastly influential power in the Western World, and how commonly it was used as an answer to mental illness.

The influence of religiosity and spirituality began to wane throughout the 20<sup>th</sup> Century, and its usage as a treatment for mental and physical conditions had almost completely disappeared in first world countries.

## **Definition and criteria for diagnosis**

The word schizophrenia—which translates roughly as "splitting of the mind" comes from Greek roots, but this term has led to many misconceptions of the disorder.

## **DSM-IV**

The definition of the mental disorder Schizophrenia has changed throughout the different editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM), the manual most commonly used by American psychologists and psychiatrists to diagnose mental illness. Despite conducting numerous studies, researchers have yet to compile comprehensive, defining criteria of symptoms or characteristics that occur in all patients suffering from schizophrenia (Walker, Kestler, Bollini & Hochman, 2004). It is often described in terms of positive and negative symptoms and cognitive impairment. However, according to DSM-5, there are six criteria for the diagnosis of schizophrenia: (DSM 5, American Psychiatric Association, 2013 )

### a- Characteristic symptoms:

- (1) Delusions
- (2) Hallucinations- the most common hallucinations Schizophrenic patients suffer from are auditory hallucinations, with an estimated 75% of patients reporting them throughout their lifetime (National Institute for Mental Health, 2016).
- (3) Disorganized speech (aphasia)
- (4) Grossly disorganized or catatonic behavior

(5) Negative symptoms (diminished emotional vibrancy or volition).  
Schizophrenic patients may also experience a reduction of feelings of pleasure in everyday life.

(6) Social/occupational dysfunction

b- Duration (continuous signs of the disturbance for at least 6 months)

c- Schizoaffective and mood disorder exclusion

d- Substance/general mood condition exclusion

e- Relationship to global developmental delay or autism spectrum

## **ICD-10**

The criteria listed in the International Classification of Diseases (ICD) are similar to those listed in the DSM, but differences in duration. To be diagnosed as Schizophrenic, a patient must experience either one of the syndromes, symptoms and signs listed below under (1), or at least two of the symptoms and signs listed under (2). They should experience these symptoms for a significant portion of the time during an episode of psychotic illness lasting for at least one month.

(1) At least one of the following:

a) Thought echo, a form of auditory hallucination where a patient ‘hears’ their internal thoughts spoken aloud, thought insertion or withdrawal, in which patients believe that their thoughts are being influenced by an external force, and that the thoughts they have are being ‘inserted’ or ‘withdrawn’ by this external force. Patients may also experience thought broadcasting; the

belief that others can 'hear', 'understand', or are otherwise aware of what the patient is thinking.

b) Delusions of control, influence or passivity, clearly referred to body or limb movements or specific thoughts, actions, or sensations; delusional perception.

c) Hallucinatory voices giving a running commentary on the patient's behaviour, or discussing the patient between themselves.

d) Persistent delusions of other kinds that are culturally inappropriate and completely impossible (e.g. being able to control the weather, or being in communication with aliens from another world).

(2) or at least two of the following:

e) Persistent hallucinations in any of the five senses, when occurring every day for at least one month. These hallucinations must also be accompanied by delusions, even if these delusions are fleeting or half-formed.

f) Neologisms (invented words) or breaks in the train of thought, resulting in incoherence or irrelevant speech.

g) Catatonic behaviour, such as excitement, posturing or waxy flexibility, negativism, mutism and stupor.

h) "Negative" symptoms such as marked apathy, reduction in speech production, and blunting or incongruity of emotional responses (it must be clear that these are not due to depression or to neuroleptic medication).

The ICD-10 also highlights that the symptoms must not be due to another previously diagnosed conditions, or attributable to drug- or alcohol-related conditions, intoxication or dependency.

### **Cognitive deficits**

Cognitive deficits are a major aspect of the psychopathology of schizophrenia and research over the last 20 years (Tandon et al, 2013). Nevertheless, cognitive deficits have not been included as one of the criteria for schizophrenia, mainly because cognitive deficits have not been found to sufficiently distinguish between schizophrenia and other mental disorders (Depp et al, 2007; Reichenberg et al, 2009).

### **Subtypes of Schizophrenia**

According to the DSM there are 5 subtypes of schizophrenia (DSM 5, American Psychiatric Association, 2013 ):

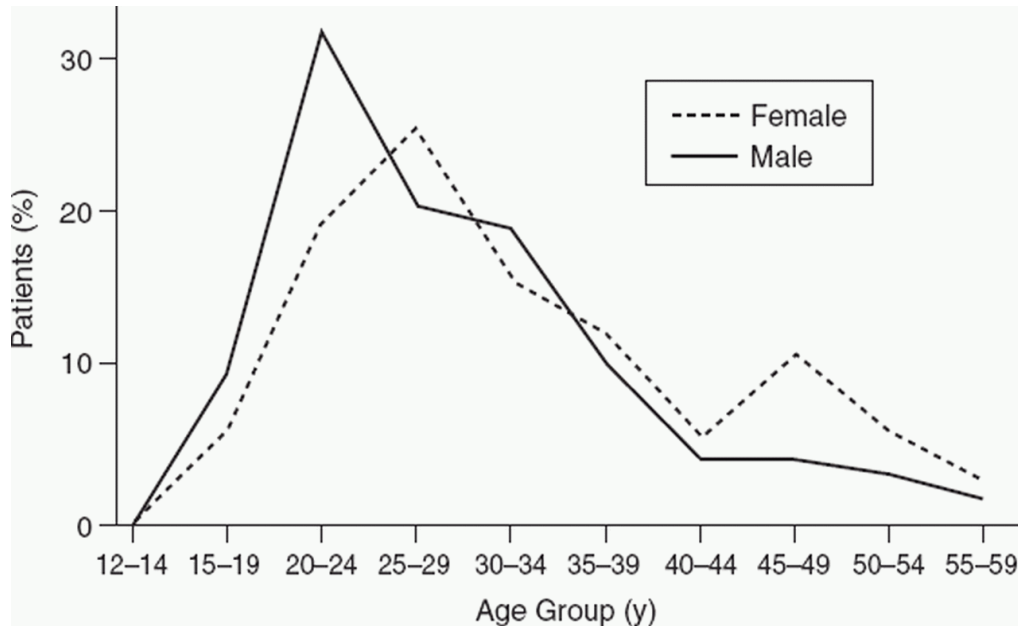
- Paranoid: Delusions or auditory hallucinations are present, but thought disorder, disorganized behavior, or affective flattening are not. Delusions are persecutory and/or grandiose, but in addition to these, other themes such as jealousy, religiosity, or somatization may also be present.
- Disorganized: Where thought disorder and flat affect are present together.
- Catatonic: The subject may be almost immobile or exhibit agitated, purposeless movement. Symptoms can include catatonic stupor and waxy flexibility.
- Undifferentiated: Psychotic symptoms are present but the criteria for paranoid, disorganized, or catatonic types have not been met

- Residual: here positive symptoms are present at a low intensity only.



## Epidemiology

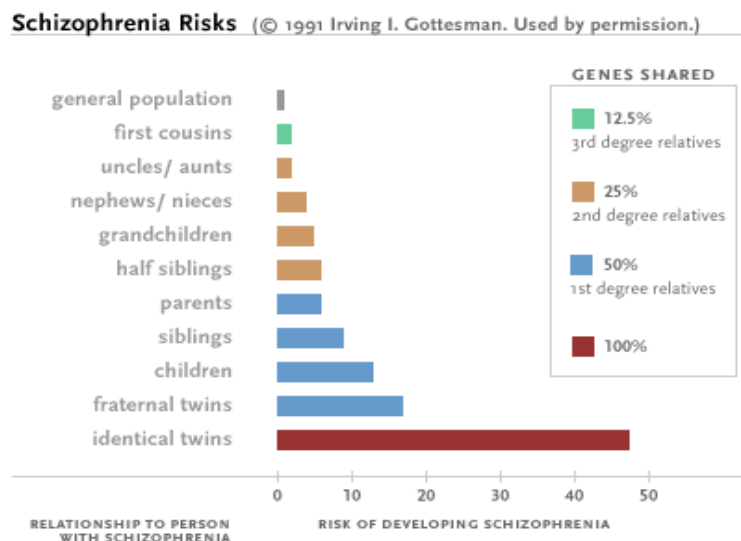
The illness occurs globally, in all countries and within all ethnic groups. Across cultures, the prevalence estimates is around 1% (Keith et al, 1991), although the prognosis may differ (Kulhara & Chakrabarti 2001). Late adolescence is the peak period for the onset of schizophrenia.



## Etiology

In the etiology of schizophrenia there is interplay between environmental and genetic factors.

- Genetic: - A predisposition to schizophrenia can be inherited (Gottesman, 1991). Research has showed that risk of developing the disorder is elevated in individuals who have relative with the disorder. For monozygotic twins, who share nearly 100% of their genes, there is an average concordance rate of 50% (Tsuang, 2000). Among dizygotic twins or siblings, who share approximately half of their genes, the likelihood of both twins developing the illness falls to approximately 10%-15%. (*Walker, Kestler, Bollini & Hochman, 2004*).



- In addition, adoptions research has provided compelling evidence that the high tendency for schizophrenia to run in families affected by genetic factors, rather than environmental factors (Heston, 1966).

- Environmental: - More recent studies have shown that the genetic predisposition is further influenced by environmental factors (Tienari et al, 1994). It is well established that stress exposure impacts brain function; studies have found that stressful life events and dysfunctional family relations and communication can increase the likelihood of the development of Schizophrenia. (Norman & Malla, 1993; Butzlaff & Hooley ,1998). In addition, family studies such as Plomin and McLearn (1993) have further reinforced the role that environment plays in the development of schizophrenia in later life. The concordance rates for the development of schizophrenia in siblings was found to be higher than that of siblings and parents. This result is contrary to what a researcher may expect to find, as siblings and parents share the same amount of genetic material as siblings, showing that the environmental factors and life experiences that siblings share may have a larger impact than genetics alone.

### **Pre-schizophrenic**

Before the onset of schizophrenia, pre-schizophrenic children have shown abnormalities in social behavior. They are less responsive in social situations, show less positive emotion and have struggles with social adjustment (Walker & Levine 1990, Done et al., 1994). Furthermore, vulnerability to schizophrenia is also apparent in motor functions. Compared to their siblings, pre-schizophrenic children show more delays and abnormalities in motor development (Walker et al. 1994). Nevertheless, the neuromotor abnormalities are not necessarily pathognomonic for schizophrenia and are observed in children with a variety of disorders.

## **Focusing on – researches on the causes of schizophrenia**

As described above, the question of the etiology of schizophrenia is a fascinating and complex problem that has challenged researchers for many years, and the debate of nature-nurture has not finished yet. To further document the complexity of this illness, we have prepared two different research studies that reveal to some degree the difficulty in answering this question;

- **“Living in a Kibbutz”**

One study that documents the challenges faced by schizophrenia researchers is a longitudinal research conducted by Rosenthal (1968). This study utilized the very unique circumstances that found in the collective community of the Israeli Kibbutz. In the Kibbutz, there is a professional child care worker that is responsible for rearing the young children in a communal house. For a large portion of the day, the children spend their time in a communal setting, while their parents take part in other occupations and activities within the community. Children would, however, consistently spend part of the day with one or both of their parents. Rosenthal designed a study using a sample of children who had a genetic predisposition to develop schizophrenia; some of whom were being raised in Kibbutz and town and followed their development over time. He built 4 different groups of 25 children: Kibbutz Index (vulnerable children, KI), Kibbutz control (KC), Town Index (vulnerable children, TI) and Town Control (TC).

**\*\* On the Presentation - discussion about the predictions \*\***

- 1- The lives in the Kibbutz are highly protective, highly organized and provided every possible necessity for the children. Thus, growing up in the environment of a Kibbutz could possibly reduce the symptoms

of schizophrenia that have been described in families that have a member with schizophrenia. **KI more normal personality than TI.**

- 2- On the other hand, the small and enclosed society of the Kibbutz with rare opportunities for privacy may present disadvantages for a vulnerable child. In this case, children that behave in a deviant manner are less likely to be accepted in the Kibbutz society. **TI more normal personality than KI.**

## **Results**

In general, the children who were being raised in the Kibbutz (KI) showed lower psychological and cognitive functioning, and when assessed later in life a larger number of them were diagnosed as schizophrenic, compared to the children who grew up in the town (TI).

A possible source of stress for the Kibbutz-raised index child lies in the forced conformity and intolerance for deviation of behaviour that is present in such a collectivist society. These results are concurrent with those collected by Lee, Lee, Chiu and Kleinman (2005), who, when researching social stigma experienced by schizophrenic patients in the collectivist culture of Hong Kong compared to patients diagnosed with a somatic condition, diabetes, found that the stress of living in a culture such as this while suffering from a mental illness impacted in a more negative way for schizophrenia sufferers, leading up to 55% of them to conceal their condition from family members. This research emphasises the importance of the environment and perhaps reinforces the impact that stress and a lack of acceptance in society may have on a child who is already genetically vulnerable to developing schizophrenia. It also highlights the importance of the inclusion of family members when treating schizophrenic patients.

## **Cannabis use and Psychosis**

Cannabis is the most commonly used illicit substance in Europe, and, when surveyed, an estimated 16.6 million young Europeans (15-34 years of age) had used cannabis in the last year (EMCDDA, 2016). Hall (2015) in a meta-analysis found that the risk of developing psychotic symptoms and psychosis related disorders such as schizophrenia doubles if a person uses cannabis recreationally during their mid-teens, and that this risk is higher if a genetic risk is present. This study is an excellent example of the influence that external factors can have on how likely a patient may be to develop schizophrenia. The results of this study are concurrent with Moore et al. (2007), who's meta-analysis found that an increased risk of developing psychosis or psychotic disorders was present in any subject who had ever used cannabis. A longitudinal study conducted over 15 years with over 45,000 surveyed participants, Andréasson, Engström, Allebeck and Rydberg (1987), found that the risk for the development of schizophrenia was significantly higher in patients who had used cannabis 50 times or more throughout the 15 years of the study. This risk was found to be so persistent throughout subjects of different social backgrounds and with different risks for developing other mental health issues, that the researchers deemed it an independent risk factor for the development of schizophrenia; i.e. the effects of cannabis use on a subjects brain may be as strong of an influence as genetics or other environmental factors.

## **Psychotherapeutic Treatments**

### **Cognitive Behavioural Therapy (CBT)**

Psychotherapeutic treatments for schizophrenia have changed rapidly throughout throughout the years, as the understanding of schizophrenia as a disorder has evolved. One of the most commonly used therapies for schizophrenia, and most

mental health disorders, is Cognitive Behavioural Therapy, or CBT. CBT for schizophrenic patients is designed not to challenge or change a patient's delusions, but rather to assist the patient in the development of coping strategies, allowing the patient to begin to view their symptoms in a more rational way, which in turn is hoped to allow them to maintain a sense of reality and perspective. To do this, practitioners may employ techniques such as diary keeping, planning a patient's day to day activities with them, and allowing them to write down appropriate responses to symptoms that may arise during the day. Turkington, Kingdon and Turner (2002) found that within a group of schizophrenic patients who received a short-term course of CBT, there was an improvement in general symptomatology, but also an improvement in patient's insight into their disorder. Zimmerman, Favrod, Trieu and Pomini (2005) found the positive symptoms of schizophrenia being experienced by 1484 patients reviewed in a meta-analysis were significantly reduced after a course of CBT.

### **Personal Therapy (PT)**

Though CBT is the most commonly used psychotherapeutic treatment for this disorder, there are other options for patients for whom CBT may not have been effective. Personal Therapy (PT) is an example of this. Though fairly new and experimental, it has been shown to be effective in improving the social adjustment of patients suffering from schizophrenia. The effects of the therapy on social adjustment have not been shown to plateau in the same way that is common amongst some treatment options, meaning that the patient's social adjustment levels continued to improve throughout a prescribed course of treatment (Hogarty et al., 1997). It has also been shown to prevent psychotic relapses in patients who lived with family members, although this positive effect was not present in samples of patients who lived externally from family, and the treatment is therefore

suggested to be offered only to patients who had achieved residential stability (Hogarty et al., 2004).

### **Spirituality and religiosity in the modern age**

The ideas surrounding the use of religion and spiritual healing as a treatment for Schizophrenia have mostly faded away, to be replaced by modern medicine and psychotherapeutic techniques. However, spiritual healing and holistic treatments for all mental health disorders, including Schizophrenia are still popular, although the treatments remain controversial, vilified by the mainstream medical communities.

There is some evidence that a clinician's understanding of a patient's religious and spiritual views, and the incorporation of these into therapeutic techniques can yield positive results. Mohr, Borrás, Gillieron, Brandt and Huguelet (2006) found that 71% of patients interviewed felt that their religion had a positive impact on their lives, acting as an effective coping mechanism. Religion and religiosity has also been shown to have an effect on social integration, suicide and the likelihood of substance abuse in a patient suffering from schizophrenia (Grover, Dalvuluri and Chakrabarti, 2014).

Though this is still an incredibly new area of research, evidence such as that presented above suggests that it may be salient for clinicians to integrate a patient's religious or spiritual leanings into psychotherapy, where appropriate.

### **Medicinal Treatments**



Antipsychotic medications are the first line of psychopharmacological treatments for schizophrenia and other psychosis related disorders. They are traditionally split into two groups;

Typical (sometimes known as first-generation) antipsychotic medications- developed in the 1950s, these medications are highly effective at treating previously medication resistant schizophrenia. They do, however, have more serious side effects than other types of antipsychotics- some of which have meant that these drugs are slowly being phased out of usage as they are considered a threat to patients health.

Atypical (sometimes known as second-generation) antipsychotic medications- developed in the 1990s as an alternative to the side effect heavy 'typical' antipsychotics

### **Conclusion**

As can be seen from the research listed above, schizophrenia is an incredibly complex disorder, with an as yet unknown etiology, with treatment options that often involve many changes for each individual patient before it becomes effective.

However, research such as that of Marder, Labell and Zimmerman (1996) has shown that a combination of antipsychotic medication and a variety of psychotherapies have the most significant effect on both the 'positive' and 'negative' symptoms of schizophrenia, and on the quality of life experienced by a schizophrenic patient. The most common reason for failure of treatment is medication noncompliance; a patient refusing to take the medication prescribed to them if direct medical supervision is not consistently present, such as in a hospital setting. Zygmunt, Olfson, Boyer and Mechanic (2002) has shown that the best

form of intervention when this occurs is one that is based in traditional psychotherapies such as family therapies and community education programmes.

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