

Causes

What Causes Schizophrenia?

Over the years there have been many ideas about the causes of schizophrenia which have taken us up blind alleys. For instance the Victorians and Edwardians believed that it was caused by masturbation and then in the sixties when the family was being criticised it was thought by many that poor family life caused schizophrenia. However, schizophrenia has now been studied closely for over a hundred years and whilst it is still not fully understood we have a very good idea of the sorts of factors that are liable to put you at greater risk of suffering an episode of this illness.

The current thinking is that schizophrenia is based on two causes. First an underlying factor originating from your birth or your genes and that doctors call a predisposing factor makes you more susceptible to the condition. Then at some point during your life (commonly in late teens or early twenties) a trigger, which doctors call a precipitating factor, such as stress or changes in hormones will lead to the first episode.

A. Predisposing factors for schizophrenia

Genetics

On average about one in every 100 people will experience an episode of schizophrenia at some point during their lifetime, a risk of about 1%. It has been observed ever since schizophrenia was first described that it tends to run in families. If you have a relative with this condition then you will be more likely to suffer from it yourself and the more closely related you are to them the higher the risk.



Identical twins have a 50% chance of developing schizophrenia if their sibling has it.
(Image: Ekaterina Shtern/Shutterstock)

For instance if you have a brother or sister with the condition then your chances of suffering from it yourself increase to about 9% and if that sibling is an identical twin then the chances are around 28%. If one of your parents has schizophrenia then your chances of suffering with it are about 13% and if both parents have it then the risk increases to about 36%.¹

Of course this begs the question: is it some genetic factor that predisposes you to suffering with the condition or is it because the two individuals share elements of the same environment during their upbringing? This is the nature versus nurture debate. But studies over many years of siblings adopted as babies or during infancy point towards a genetic factor that was pivotal rather than the kind of upbringing

they received and scientists now agree, after over a hundred years of research, that there is a genetic predisposition in schizophrenia.

Complications during pregnancy and birth

Obstetric complications, that is a difficult in pregnancy or birth, are found to have occurred in about 40% of people with schizophrenia. There is no clear pattern in the research as to exactly the sorts of complications that may be the cause. A prolonged and traumatic delivery, lack of oxygen during delivery, an unusually high number of prior miscarriages and infections immediately following birth have all been described as possible links.²

Infectious agent

Much research has been done into the possibility that an infection picked up by babies in the womb or shortly after birth may cause changes in the brain which could lay dormant and cause schizophrenia later on in life. Some of this research has been promising and some has been conflicting. One particular infection called toxoplasmosis, which is associated with domestic cats, has been identified as being a suspect. There may however be something in this, since some viruses are very seasonal it would certainly account for the seasonality of births in schizophrenia with more people who experience the illness being born in the winter and spring than in the summer and autumn. However the jury is still out on this.³

Use of street drugs and schizophrenia

It has long been known that some drugs can induce symptoms of psychosis. For instance amphetamines (speed) and cocaine are well known to cause paranoia and LSD causes hallucinations. But so far only one drug, cannabis, has been said to cause permanent psychosis. The link between cannabis and schizophrenia has for some years been very contentious but there is now a strong body of research evidence emerging that shows that if you use cannabis you are considerably more likely to go on to develop schizophrenia.

Studies have shown that if you use cannabis you are more likely to develop schizophrenia than if you don't with various studies finding the increased risk up to six times higher. Furthermore use of cannabis or other street drugs following the first episode of schizophrenia will leave you more liable to a relapse and involve you in more admissions to hospital.¹²



There is growing evidence that cannabis use can put you at a high risk of developing schizophrenia. (Image: Shutterstock)

It is thought that if cannabis is used in the teenage years before the brain is fully developed permanent damage can be done and the earlier that cannabis use starts the higher the risk. Using cannabis in early adolescence can lead to a fourfold risk of developing schizophrenia later on.¹⁵

This issue has become much more significant in recent years because of the development by drug dealers of new types of cannabis plant that are much stronger in their effects. The new strains of cannabis plants developed by genetic modification techniques contain much higher levels of the active ingredient THC than the strains that were available 20 years ago. In fact levels of THC in cannabis in 2009 were about four times higher than in 1980.¹³

Furthermore, whereas the link between cannabis use and the first episode of schizophrenia is just emerging, the link between the use of street drugs and dangerous behaviour by people with schizophrenia such as suicide and violence has been long established. Along with a previous history of dangerousness and non-adherence with medication, use of alcohol and street drugs is a clearly established predictor for dangerous behaviour in people living with schizophrenia.¹⁴

Migrant origin



Migrant communities tend to show a higher incidence of schizophrenia. Young Afro-Caribbean men in the UK are particularly at risk.

Recent studies have shown that first and second generation immigrants have a much higher risk of developing schizophrenia and that this risk is greater if the migrants originate from countries where the population is black in ethnic origin.¹⁶ Why this should be so is not yet fully understood and there are a number of theories including susceptibility to certain virus infections and lack of sunlight. This may at least in part explain the very much higher incidence of schizophrenia amongst young Afro Caribbean men in the UK.

B. Precipitating factors

However a genetic predisposition does not give us the complete picture. The fact that only 50% of identical twins with a sibling who has schizophrenia will develop the illness themselves despite sharing exactly the same genes tells us that genetics cannot be the whole answer and that there must be other factors playing a role here. So it is also thought that, in addition to the right combination of genes or other pre-disposing factors, there needs to be some precipitating factor which somehow triggers the first episode.

This precipitating factor can sometimes be hormonal changes such as those experienced during puberty or after childbirth, the stress caused by a bereavement or a period of prolonged and very intense stress such as that caused by over-work at exam time.

It is very important here to distinguish between a stress event as a trigger in someone pre-disposed to the condition and stressful life events as predisposing in themselves. Studies have found no link between past trauma in a person's life and their propensity for schizophrenia; after all if this were the case then we would expect to see epidemics of schizophrenia amongst concentration camp survivors or victims of the blitz and this has not been the case.¹⁷

C. What doesn't cause schizophrenia?

Over time many unhelpful theories have arisen about the causes of schizophrenia which have subsequently been found to be groundless and have thankfully fallen by the wayside. Often these theories tend to reflect social trends of the time and new ones keep on cropping up even today.

Masturbation

It was widely believed during the 19th and early 20th centuries, when sexual mores were very much stricter than today, that masturbation caused schizophrenia and other types of mental ill health. Needless to say we now know that this is a preposterous idea and yet at the time this belief was widespread amongst doctors and laypeople alike.⁴

Bad parenting

Bad parenting and in particular bad mothering was thought to cause schizophrenia in offspring for much of the 20th century. This belief found widespread support from the followers of Sigmund Freud's psychoanalytic theories but it is worth noting that Freud himself believed that schizophrenia probably had physical origins and refused to treat it by psychoanalysis.

The various psychoanalytic theories reflected the belief that traumatic experiences in early childhood, often forgotten and unacknowledged, affected the development of the child's "ego". Later, so the theory goes, under the stress of adolescence the ego disintegrates and the person regresses to an infantile condition.^{5,6}



Frieda Fromm-Reichman who believed that the family environment caused schizophrenia

In 1948 Fromm and Reichman took this a stage further and came up with the concept of schizophrenogenic families. That is, a family environment that gives rise to schizophrenia in the offspring. In the 1960s and 1970s the growth of the anti-psychiatry movement gave the belief added impetus.

In the past such family theories have been widespread amongst professionals who have seen the person's family as being part of the problem rather than as an important factor in the overall therapeutic solution. Families were often denied information about their loved one's condition and people suffering from psychotic episodes were sometimes removed from their supportive family home to live in seedy bedsits where they were often unable to cope with the pressures of everyday life and were targeted by predatory or anti social neighbours. The families were then stigmatised as being the cause of their loved ones problems.

The theories which gave rise to these abuses were often not tested by evidence and thankfully we have moved on. However it is still possible to encounter older professionals who stubbornly cling to these beliefs. In 1975 the prominent psychiatrist Julian Leff, along with Steven Hirsch reviewed all the available literature on the family theories and concluded that there was no hard evidence that family upbringing caused schizophrenia.¹⁸

The double bind theory



Gregory Bateson, US anthropologist who developed the double bind theory of schizophrenia

In 1956 an American anthropologist, Gregory Bateson, published a paper in which he claimed that schizophrenia arose in people who had been subjected to what he termed double bind communications from their parents during childhood. That is parents who said one thing to their child whilst meaning the opposite. Bateson never produced any statistical evidence to support this theory and for that matter neither did anyone else but despite the absence of an evidence base it gained considerable popularity amongst psychologists and social workers during the 60's and 70's. Even today it is possible to find old school professionals particularly in the social work and criminal justice fields who still hold to this baseless theory.⁷

Child abuse and schizophrenia

With society's growing awareness of the issue of child abuse during the 1990's and into the 21st century came the hypothesis that experiences of abuse during childhood and adolescence caused schizophrenia later in life. Whilst such experiences of abuse are undoubtedly psychologically damaging, there is currently no solid research evidence of a link with schizophrenia.⁸ In fact the theory that childhood trauma could lead to schizophrenia later in life has been around for a very long time, going back at least as far as the Victorians but it was tested by extensive research particularly during the latter half of the 20th century and the great weight of evidence indicates that there is no link. And after all, this is what we would expect. If childhood trauma did lead to the onset of schizophrenia later in life then we would have expected to see epidemics of schizophrenia amongst groups like concentration camp survivors or victims of the blitz and that simply did not happen.

A sane reaction to an insane world

This bizarre theory was the brainchild of British psychoanalyst Ronald Laing who became the doyen of the anti-psychiatry movement of the 1960's. The theory grew out of the idea that often the person diagnosed with schizophrenia was the scapegoat for the social turbulence of a dysfunctional family environment and may in fact paradoxically be the sanest member of the family group. Although the idea gained a great deal of popularity, in later life Laing himself became increasingly disillusioned with it.⁹



Dr Thomas Szasz, the US psychoanalyst who proposed that schizophrenia doesn't exist. Photo: Jennyphotos

Schizophrenia doesn't exist

In the middle of the 20th century there were those in the anti-psychiatry movement who proposed that schizophrenia didn't exist at all and that it was simply an invention of the psychiatry profession. Dr Thomas Szasz, a psychoanalyst in the USA, became well known for this theory. He called schizophrenia a fake disease and the sacred symbol of psychiatry. Perhaps if he had ever had to endure a day living with the voices he would not have resorted to this strange notion.⁹

D. What factors don't fit the theories?

Whilst it is extremely useful to both the sufferers and their carers to understand that their schizophrenia is not the result of something they have done wrong, it is also important to realise that the causes of schizophrenia are still not fully understood and that this condition does exhibit some very odd quirks in the way that it occurs.

For instance schizophrenia is very much an urban condition, with people growing up in cities having about twice the risk of developing it than their counterparts in the countryside.¹⁰

In addition there is a distinct seasonal variation in the birthdates of people with schizophrenia, there being an excess of births during the winter and spring. Episodes tend to be seasonal as well with more admissions to inpatient care being required in the summer.¹¹

There are also differences between the genders in the way that schizophrenia occurs. It usually affects men at a slightly earlier age than women and tends to be more severe in men.

It is also interesting to note that during the first half of the 20th century in the industrialised countries most people with schizophrenia were confined in large asylums where they had very few opportunities to reproduce, yet during this time the incidence of schizophrenia in the general population actually increased slightly. Clearly then the genetic pre-disposition angle is more complex than it first may appear.

It is clear that the problem may not be one gene acting alone but several acting in combination and that this combination may actually be present in a very large proportion of the population most of whom will not experience a precipitating event such as extremely high stress levels. Simply having the right combination of predisposing genes does not in any way make an episode of schizophrenia a certainty.



Outcomes of a successful recovery from schizophrenia are better in developing countries than in the industrialised world. (Image: Shutterstock)

Another interesting quirk of this illness is that outcomes of a successful recovery tend to be higher in the developing world than in the industrialised countries.

Schizophrenia is a complex condition that is still not fully understood. This is no great surprise really. The brain after all is the most complex organ in the body so it follows that its disorders will be equally complex. However after more than a century of research we know enough about the condition to be able to say with some certainty what factors are liable to make you more susceptible and which aren't.

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