Causes of Mental Illness

1. Introduction
A key for prevention of mental illness is identifying the causes. The causes come from the following sources:

- External influences, psychological and lifestyle,
- Genetics/biological and physical influences in the brain,
- Both external influences, psychological and genetics.

This article will concentrate on mostly on prevention of mental illness caused by lifestyle and external influences due to limitations of modern medicine to prevent a mental illness purely caused by genetics influences (although there are many ways of mental illness treatment – psychiatrists/psychologists/counselling appointments, medication, respite, occupation therapy, meditation, social groups, courses or Electroconvulsive therapy (ECT)). It is beyond the scope of this article to present all of lifestyle influences on mental illness in detail.

Causes of suicide are not addressed properly in most countries [3]:

"While the link between suicide and mental disorders (in particular, depression and alcohol use disorders) is well established in high-income countries, many suicides happen impulsively in moments of crisis with a breakdown in the ability to deal with life stresses, such as financial problems, relationship break-up or chronic pain and illness.

In addition, experiencing conflict, disaster, violence, abuse, or loss and a sense of isolation are strongly associated with suicidal behaviour. Suicide rates are also high amongst vulnerable groups who experience discrimination, such as refugees and migrants; indigenous peoples; lesbian, gay, bisexual, transgender, intersex (LGBTI) persons; and prisoners. By far the strongest risk factor for suicide is a previous suicide attempt.” [3].

Mental illness could be the result of physical health [24]:

"Researchers in the field of psychoneuroimmunology (PNI) study the ways in which the immune system and the nervous system communicate with each other and impact people’s mental and emotional health. Even though the field is relatively new, many studies have been designed to examine the influence of immune and nervous systems on the psychological consequences of stress.” [24].
2. External Influences

External and lifestyle causes of mental illness include the following:

- Discrimination (intelligence, amount of qualifications, employment status, financial status, physical appearance (face, voice, accent, weight, width, height, body mass index (BMI), hair colour, skin colour), cultural background, country of birth, race, political views, ethnicity, marital status, religion, status in religion and gender identity),
- Stress (work, competition, study, finances, relationships, family, friends, social life, parenting, peer pressure, family pressure and expectations),
- Fear (failure, loss of job, bankruptcy, dangerous jobs, divorce) – anxiety cycles,
- Physical Trauma – brain damage or injury (accidents, assaults),
- Mental Trauma (war/conflict/political unrest, jail sentence/detention confinement, loss of family member or friend, failure, loss of job, bankruptcy, accidents (industrial and traffic), losing at a sporting event, victim of crime (extortion, blackmail, theft, assault)),
- Addictions (gambling, alcohol, drugs),
- Bullying and harassment (work, school, university, family, social groups, friends).

2.1 Discrimination

General studies on discrimination causes of mental illness:

"Studies have not yet considered the stressor of discrimination as a potential risk factor for PMDD\(^1\). The association between perceived discrimination and mental illness is well documented, however. A meta-analysis demonstrated that perceived discrimination was associated with greater anxiety disorders, major depression and dysthymia, psychosis, substance abuse disorders, depressive symptoms, anxiety symptoms, and posttraumatic stress symptoms. Furthermore, discrimination targeting specific aspects of one's identity, such as race and gender, was positively associated with psychiatric morbidity. Because ethnic minority women are likely to experience discrimination attributable to race and gender, an analysis of the association between these types of discrimination and PMDD is worthwhile." [6].

There is racial discrimination:

"The 2009 study is far from the only study to establish a link between racism and depression. Studies conducted in 1993 and 1996 found that when members of ethnic minority groups make up small portions of a population in an area they are more likely to suffer from mental illness. This is true not only in the United States but in the United Kingdom as well.

Two British studies released in 2001 found that minorities living in majority-white London neighborhoods were twice as likely to suffer from psychosis as their counterparts in diverse communities. Another British study found that minorities were more likely to attempt suicide if they lived in areas lacking ethnic diversity. These studies were referred to in the Fourth National Survey of Ethnic Minorities in the UK, published in the British Journal of Psychiatry in 2002.

\(^1\) [http://en.wikipedia.org/wiki/Premenstrual_dysphoric_disorder](http://en.wikipedia.org/wiki/Premenstrual_dysphoric_disorder)
The national survey measured the experiences that 5,196 persons of Caribbean, African and Asian origin had with racial discrimination in the past year. Researchers found that study participants who had endured verbal abuse were three times more likely to suffer from depression or psychosis. Meanwhile, participants who'd endured a racist attack were almost three times as likely to suffer from depression and five times more likely to suffer from psychosis. Individuals who reported having racist employers were 1.6 times more likely to suffer from a psychosis.” [4].

“Discrimination is a common experience for Blacks across various developmental periods. Although much is known about the effect of discrimination on suicidal ideation of adults, less is known about the same association in Black youth.” [1].

“In the pooled sample of Black youth, higher perceived discrimination was associated with higher odds of suicidal ideation.” [1].

There is gender identity discrimination:

“A report by the Telethon Kids Institute has found trans youth — young people who identify with a gender that does not match the sex assigned to them at birth — are at an alarmingly high risk for suicide and serious depression. The Trans Pathways survey, which examined the mental health of trans young people, found almost 80 per cent (aged 14-25 years) had self-harmed, compared to almost 11 per cent of adolescents in the general Australian population. A staggering 48 per cent had attempted suicide, compared with 2.4 per cent of adolescents in the general population. Trans young people are also 10 times more likely to suffer from serious depression and anxiety than other young Australians.” [2].

There is physical appearance discrimination:

"Shorter men have a twofold greater risk for suicide than taller men, according to a cohort study of more than a million men in this country. For every five-centimeter (two-inch) increase in height, there was a 9% decrease in suicide risk, according to Patrik Magnusson, Ph.D., of Uppsala University and colleagues." [7].

"These conclusions were based on data from 1,299,177 Swedish men who were born between 1950 and 1981 - 79% of the Swedish male population at the time. The men were tracked between ages 18 to 49. During the 15-year follow-up period, there were 3,075 suicides." [7].

"Their findings cannot be applied to older men or women, they said. However, they noted that in Sweden, the United Kingdom, and the United States, suicides among men ages 18 to 49 "account for almost half of all suicides." [7].
"The researchers cited earlier research, including a 1997 British Medical Journal study that suggested shorter children might be at an intellectual disadvantage. "Short children tend to have lower levels of intelligence and may suffer stigmatization and discrimination," they concluded.

In addition, "psychological stress and disrupted family life in childhood impair growth and may increase susceptibility to mental illness and suicidal behavior later in life." [7].

However, not all studies suggest that weight discrimination is major cause of mental illness:

"Among obese participants, 6.1% reported at least one discrimination experience due to their weight, which is comparable to rates in the MIDUS dataset (7–9), the only other nationally representative study to examine the prevalence of perceived weight discrimination." [5].

"Although perceptions of weight discrimination were found in both genders, women were more likely to report experiencing weight discrimination than men, consistent with most (8,9), although not all (11) prior studies. In addition, younger obese individuals were at particular risk, consistent with other research (29). In contrast to results from the MIDUS dataset (8), our findings showed that whites were the most likely to report discriminatory experiences." [5].

2.2 Stress
One of sources of stress is finances and poverty that might cause depression:

“Every year close to 800 000 people take their own life and there are many more people who attempt suicide. Every suicide is a tragedy that affects families, communities and entire countries and has long-lasting effects on the people left behind. Suicide occurs throughout the lifespan and was the second leading cause of death among 15 – 29-year-olds globally in 2016.

Suicide does not just occur in high-income countries, but is a global phenomenon in all regions of the world. In fact, over 79% of global suicides occurred in low- and middle-income countries in 2016.

Suicide is a serious public health problem; however, suicides are preventable with timely, evidence-based and often low-cost interventions. For national responses to be effective, a comprehensive multisectoral suicide prevention strategy is needed." [3].

Stress causes mental illness:

“PNI research suggests that chronic stress can lead to or exacerbate mood disorders such as depression and anxiety, bipolar disorder, cognitive (thinking) problems, personality changes, and problem behaviors.” [24].

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2 Psychoneuroimmunology
Gender differences in reaction to stress:

“Second, stress amplifies gender differences in strategies during risky decisions, with males taking more risk and females less risk under stress. These gender differences in behavior are associated with differences in activity in the insula and dorsal striatum, brain regions involved in computing risk and preparing to take action.” [19].

2.3 Fear
Fear results in anxiety cycles:

“The essence of anxiety is worrying about some potential threat. It is trying to cope with a future event that you think will be negative. You do this by paying more attention to possible signs of potential threat, and looking internally to see whether you will be able to cope with that threat. When you notice your anxious symptoms, you think that you can’t cope with the situation, and therefore become more anxious. This is the start of the vicious cycle of anxiety.” [9].

How fear causes anxiety:

“It can also take effect when you’re faced with non-dangerous events, like exams, public speaking, a new job, a date, or even a party. It’s a natural response to a threat that can be either perceived or real [2].

Anxiety is a word we use for some types of fear that are usually to do with the thought of a threat or something going wrong in the future, rather than right now [3].

Fear and anxiety can last for a short time and then pass, but they can also last much longer and you can get stuck with them. In some cases they can take over your life, affecting your ability to eat, sleep, concentrate, travel, enjoy life, or even leave the house or go to work or school. This can hold you back from doing things you want or need to do, and it also affects your health.” [10].

A good link on managing fear is [10, 9].

2.4 Physical Trauma
Brain injury is likely to cause mental illness and thus should be avoided:

"In 2013, a group of Danish scientists found that individuals with TBI³ (including concussions) were four times more likely to develop a mental illness. People who had received a TBI were 65 percent more likely to develop schizophrenia, 59 percent more likely to develop depression and 28 percent more likely to develop bipolar disorder. This study is the largest of its kind and involved following 1.4 million Danish citizens born between the years 1977 and 2000." [22].

³ Traumatic Brain Injury
Brain injury during pregnancy might cause mental illness:

“Prenatal damage: Some evidence suggests that a disruption of early fetal brain development or trauma that occurs at the time of birth -- for example, loss of oxygen to the brain -- may be a factor in the development of certain conditions, such as autism spectrum disorder.” [21].

Mental illness due to infections is a serious problem:

“Infections: Certain infections have been linked to brain damage and the development of mental illness or the worsening of its symptoms. For example, a condition known as pediatric autoimmune neuropsychiatric disorder (PANDA) associated with the Streptococcus bacteria has been linked to the development of obsessive-compulsive disorder and other mental illnesses in children.” [21].

2.5 Mental Trauma
A common cause of trauma is war and conflict:

“The Research

Dr. Karen Seal and her colleagues found that up to 1/3 of returning U.S. soldiers had a mental illness or a psycho-social disorder, and more than 1/2 of those were diagnosed with more than one disorder at a time, with the most common combination being Post Traumatic Stress Disorder and depression; substance use was also common. Returning veterans are also at high risk for suicide and for inflicting violence on their family members. Veterans are at high risk of homelessness because of the mental illnesses they suffer from being at war and their inability to reintegrate into 'normal life'.

The Impact on Civilians

Let us not forget what war does to civilians who are part of the battlefield; the children, the women, the men, the elderly whose lives are at risk every hour of every day. Who leave home and are not sure if they will return. The guilt of surviving when other family members have been killed. Studies have shown that civilians suffer an increase in mental illness during and after war. Again, this is not a very surprising result. And the families left behind when soldiers leave home to go to the battlefield also suffer the stress of not knowing when, or if, their loved ones will return. The spouses left behind must take on all the responsibilities of the household. Though the technological gifts of Skype allow loved ones on the battlefield to connect with home, this does not replace 'being there'.” [11].

There is also impact of refugee detection centres on mental illness:

“Dudley (2003) estimates that the rates of suicidal behaviours among men and women in these Australian detention centres are approximately 41 and 26 times the national average, respectively. Furthermore, male refugee claimants in detention have rates of suicidal behaviour that are 1.8 times higher male prison rates (Dudley, 2003). Steel et al. (2004) assessed parents and children who had been held in Australian immigration detention centres for approximately two years. All of the individuals met diagnostic criteria
for at least 1 current psychiatric disorder; 26 disorders were identified among 14 adults, and 52 disorders were identified among 20 children. Mares and Jureidini (2004) confirmed these high levels of psychological distress among adults and children in detention and noted that there was very little support and few interventions provided in those settings. The detention setting places many obstacles in the way of clinicians servicing detainees and making significant improvements in such an impoverished environment is improbable. Refugees’ experiences of immigration detention have offered compelling evidence that detention has impeded efforts to address their mental health needs. The Detention Health Advisory Group on which the APS is represented, is developing evidence-based policies and procedures in regard to the health and wellbeing of detainees, particularly around suicide and self-harm issues. (Commonwealth of Australia, 2007).” [12].

Criminal justice system is a significant cause of mental illness:

“Mental disorders occur at high rates in all countries of the world. An estimated 450 million people worldwide suffer from mental or behavioural disorders [2]. These disorders are especially prevalent in prison populations [3]. The disproportionately high rate of mental disorders in prisons is related to several factors: the widespread misconception that all people with mental disorders are a danger to the public; the general intolerance of many societies to difficult or disturbing behaviour; the failure to promote treatment, care and rehabilitation, and, above all, the lack of, or poor access to, mental health services in many countries. Many of these disorders may be present before admission to prison, and may be further exacerbated by the stress of imprisonment. However, mental disorders may also develop during imprisonment itself as a consequence of prevailing conditions and also possibly due to torture or other human rights violations.

Prisons are bad for mental health: There are factors in many prisons that have negative effects on mental health, including: overcrowding, various forms of violence, enforced solitude or conversely, lack of privacy, lack of meaningful activity, isolation from social networks, insecurity about future prospects (work, relationships, etc), and inadequate health services, especially mental health services, in prisons. The increased risk of suicide in prisons (often related to depression) is, unfortunately, one common manifestation of the cumulative effects of these factors.” [16].

A good solution would be to reward good behavior to reduce the amount of crimes committed and thus the amount of incarcerations:

“New research examining how stress affects decision processes reveals two consistent findings. First, acute stress enhances selection of previously rewarding outcomes but impairs selection of previously negative outcomes, possibly due to stress-induced changes in dopamine in reward-processing brain regions.” [19].

There is information on advantages of rewarding good behavior in children in [17]:

“Rewards can make your praise and encouragement work better. Most behaviour is influenced by the consequences that follow it, so when you praise your child’s behaviour and then reward it, the behaviour is more likely to happen again.
Rewards can work well at first, but it’s best not to overuse them. If you need to use them a lot, it might help to rethink the situation – are there any other strategies that you could try to encourage the behaviour you want? Or is the task or behaviour too hard for your child right now?

Note that bribery and rewards aren’t the same. A bribe is given before the behaviour you want, and a reward is given after. Rewards reinforce good behaviour, but bribes don’t.” [17].

However, adults are different from children with higher intelligence, confidence and most of all life experience.

Also, another study with very young children proved that rewarding good behavior might lead to more bad behavior: “Unfortunately, a study in the journal Child Development also shows that our intuition about positive reinforcement can be exactly wrong. In this study, rewarding a child's sharing resulted in the child choosing to share less.” [18].

2.6 Addictions
Information about drug induced schizophrenia is available on http://sane.org website:

“Some drugs cause a condition called drug-induced Psychosis, which usually passes after a few days. However, if someone has a predisposition to a psychotic illness such as Schizophrenia, these drugs may trigger the first episode in what can be a lifelong mental illness. Using drugs can also make the symptoms of mental illnesses worse and make treatment less effective.” [23].

Substance abuse can include:

- “Alcohol,
- Caffeine,
- Cocaine and Amphetamines,
- Hallucinogens,
- Nicotine,
- Opioids,
- Sedatives.” [15].

Problems with substance abuse are presented in [15]:

“As defined in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (American Psychiatric Association [APA] 2000) (DSM-IV-TR), substance-induced disorders include:

- Substance-induced delirium,
- Substance-induced persisting dementia,
- Substance-induced persisting amnestic disorder,
- Substance-induced psychotic disorder,
Substance-induced disorders are distinct from independent co-occurring mental disorders in that all or most of the psychiatric symptoms are the direct result of substance use. This is not to state that substance-induced disorders preclude co-occurring mental disorders, only that the specific symptom cluster at a specific point in time is more likely the result of substance use, abuse, intoxication, or withdrawal than of underlying mental illness. A client may even have both independent and substance-induced mental disorders. For example, a client may present with well-established independent and controlled bipolar disorder and alcohol dependence in remission, but the same client could be experiencing amphetamine-induced auditory hallucinations and paranoia from an amphetamine abuse relapse over the last 3 weeks.

Symptoms of substance-induced disorders run the gamut from mild anxiety and depression (these are the most common across all substances) to full-blown manic and other psychotic reactions (much less common). The “teeter-totter principle”—i.e., what goes up must come down—is useful to predict what kind of syndrome or symptoms might be caused by what substances. For example, acute withdrawal symptoms from physiological depressants such as alcohol and benzodiazepines are hyperactivity, elevated blood pressure, agitation, and anxiety (i.e., the shakes). On the other hand, those who “crash” from stimulants are tired, withdrawn, and depressed. Virtually any substance taken in very large quantities over a long enough period can lead to a psychotic state.

Because clients vary greatly in how they respond to both intoxication and withdrawal given the same exposure to the same substance, and also because different substances may be taken at the same time, prediction of any particular substance-related syndrome has its limits. What is most important is to continue to evaluate psychiatric symptoms and their relationship to abstinence or ongoing substance abuse over time. Most substance-induced symptoms begin to improve within hours or days after substance use has stopped. Notable exceptions to this are psychotic symptoms caused by heavy and long-term amphetamine abuse and the dementia (problems with memory, concentration, and problem solving) caused by using substances directly toxic to the brain, which most commonly include alcohol, inhalants like gasoline, and again amphetamines. Following is an overview of the most common classes of substances of abuse and the accompanying psychiatric symptoms seen in intoxication, withdrawal, or chronic use.”

2.7 Bullying and Harassment
Bullying and harassment usually happens at work, universities or schools.

Work place bullying issues are presented in [14]:

“Work-related mental health conditions (also known as psychological injuries) have become a major concern in Australian workplaces due to the negative impact on individual employees, and the costs associated with the long periods away from work that are typical of these claims. Each year:
• 7,200 Australians are compensated for work-related mental health conditions, equating to around 6% of workers’ compensation claims, and
• approximately $543 million is paid in workers’ compensation for work-related mental health conditions.

**Mental health in the workplace**

Mental health can be adversely affected by exposure to a range of hazards or factors in the workplace, including, for example:

- high job demand,
- low job demand,
- poor support,
- poor workplace relationships,
- low role clarity,
- poor organisational change management,
- poor organisational justice,
- poor environmental conditions,
- remote or isolated work, and,
- violent or traumatic events.

Exposure to these hazards can lead to work-related stress. When stress is very high and or prolonged it can in turn lead to work-related psychological or physical injury. For example, work-related stress may lead to depression and anxiety in the long term.

Work-related stress has been linked with high levels of:

- unplanned absences including sick leave,
- staff turnover,
- withdrawal and presenteeism, and,
- poor work and poor product quality.” [14].

Mental illness from school bullying might last for many years after graduation:

“According to the American Psychological Association, bullying is a form of aggressive behavior in which someone intentionally and repeatedly causes another person injury or discomfort. Even though bullying commonly happens in childhood, the impact can last well into adulthood. Duke University recently conducted research that shows the rates for agoraphobia and panic disorders greatly increases with bullying. Mental health issues such as depression, anxiety, and low esteem haunt many adults who were once bullied in childhood.” [20].
Common characteristics of those bullied include:

- A feeling of helplessness,
- Social withdrawal,
- Anxiety,
- Depression,
- Self blame." [20].

3. Genetics Influences
Genetic influences include family history of mental illness:

"New studies shed new light on how specific genes contribute to the susceptibility to and pathology of schizophrenia, bipolar disorder and depression, some of the most severe, chronic and disabling mental illnesses that collectively affect an estimated 40 million Americans." [13].

"Some mental illnesses have been linked to abnormal functioning of nerve cell circuits or pathways that connect particular brain regions. Nerve cells within these brain circuits communicate through chemicals called neurotransmitters. "Tweaking" these chemicals -- through medicines, psychotherapy or other medical procedures -- can help brain circuits run more efficiently. In addition, defects in or injury to certain areas of the brain have also been linked to some mental conditions." [21].

Endophenotypes[^4] influences are clinical disorders:

"It is also important to identify the endophenotypes — traits associated with a clinical disorder — that can serve as a roadmap for detecting disease-related genes." [13].

3.1 Schizophrenia
Low folate levels cause schizophrenia [13]:

"According to Dr. Goff, whose pioneering research identified a link between low blood levels of folate and negative schizophrenia symptoms, folate is involved in many different chemical pathways in the brain, including keeping levels of the amino acid homocysteine low.

When homocysteine levels are too high, this interferes with the functioning of receptors located all over the brain — called NMDA (N-methyl-D-aspartate) receptors — that are critical to learning, memory, brain development, and general neural processing.

However, what causes low folate in people with schizophrenia is still open to question. One reason, confirmed by epidemiological studies, is poor dietary intake. Based on examining two major famines in the 20th century — the Dutch Hunger Winter of 1944-45 brought about by the Nazi occupation in World War[^4] http://en.wikipedia.org/wiki/Endophenotype
II and the Chinese famine in 1959-61 — scientists found that the incidence of schizophrenia among children born to women who were pregnant during these famines increased two-fold.

But in most cases, starvation is not the problem. That is why Dr. Goff’s team looked for other causes, including two genes: GCPII (glutamate carboxypeptidase II), which controls the absorption of folate and may be deficient in people with schizophrenia, and MTHFR (methylenetetrahydrofolate reductase), which activates folate for use in the brain.” [13].

Other genes that might mental illness are MTHFR (methylenetetrahydrofolate reductase)⁵ and COMT (catechol-O-methyltransferase)⁶:

“Now, Dr. Roffman’s team is looking at the combination of MTHFR and another gene — COMT (catechol-O-methyltransferase) — that affects dopamine⁷ levels in the brain. Although the two genes have separately been associated with schizophrenia, Dr. Roffman’s⁸ just completed study finds that when these genes interact, a specific subset of patients is at greater risk for cognitive impairment.

In individuals who carry the risk variants of both MTHFR and COMT, lower-than-normal levels of dopamine in the part of the brain called the prefrontal cortex may cause problems with information processing and working memory. Using functional neuroimaging, Dr. Roffman and his colleagues also found that the same combination of MTHFR and COMT variants were associated with abnormally low activity in the prefrontal cortex.” [13].

Family history influences on mental illness in children are not as significant as most people perceive they are [13]:

“In contrast, only 6.5 percent of family members of people with schizophrenia actually have the illness, which means most relatives don’t have symptoms of the illness but may still be gene carriers.

To find the relatives who are likely carriers of genes for schizophrenia and bipolar disorder, Dr. Levy and her colleagues have zeroed in on four discernable schizophrenia-related traits that occur in well family members at a much higher rate than schizophrenia itself: difficulty following a slow moving target with one’s eyes, syntax errors or idiosyncratic use of language, subtle anomalies involving the midline of the face, and difficulty filtering out noises and other irrelevant stimuli (a condition known as sensory gating).

These traits, according to Dr. Levy, are much more common in families with schizophrenia. For example, idiosyncratic use of language (a trait similar to the thought disorder⁹ observed in schizophrenia) occurs in

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⁵ http://www.psychologytoday.com/au/blog/the-integrationist/201409/genetic-mutation-can-affect-mental-physical-health
⁷ http://en.wikipedia.org/wiki/Dopamine
⁸ Dr Joshua Roffman
⁹ http://en.wikipedia.org/wiki/Thought_disorder
37 percent of clinically unaffected first-degree relatives of individuals with schizophrenia, a rate that is almost six times higher than schizophrenia in the same families.

When the rates for thought disorder and schizophrenia and related clinical conditions are combined, the proportion of potential gene-carrying relatives is close to 50 percent, consistent with a dominant gene, and much higher than the 6.5 percent rate of schizophrenia in the same families.” [13].

3.2 Depression
TREK1 gene\(^{10}\) is causing depression [13]:

“After studies in mice identified variations of four genes that may affect how individuals respond to antidepressant treatment, Dr. Perlis and his colleagues examined these four genes in DNA samples provided by 1,554 people participating in a large government study called the Sequenced Treatment Alternatives to Relieve Depression (STAR*D) trial. What the team found was a link between a variation in the gene TREK1 and poorer response to antidepressant treatment.

This is especially significant because people with depression often require more than one treatment before they find one that “works” for them. If individuals with more “treatment-resistant” depression can be identified early in their illness, they may be treated more effectively. Further, Dr. Perlis believes that studying how variations in genes affect response to medications will also lead to a completely new class of more targeted antidepressant therapies.” [13].

3.3 Anxiety
Anxiety might result from changes in your brain [8]:

“Researchers don’t know exactly what brings on anxiety disorders. Like other forms of mental illness, they stem from a combination of things, including changes in your brain and environmental stress, and even your genes. The disorders can run in families and could be linked to faulty circuits in the brain that control fear and other emotions.” [8].

4. Conclusion
Early intervention might not be prevention of mental illness as some experts might argue. When most interventions are applied the mental illness is already diagnosed and thus already present in an individual. However, early intervention might reduce the impact of mental illness and reduce time to recovery.

Prevention of suicides is presented in [8]:

“Suicides are preventable. There are a number of measures that can be taken at population, sub-population and individual levels to prevent suicide and suicide attempts. These include:

- reducing access to the means of suicide (e.g. pesticides, firearms, certain medications);

\(^{10}\) [http://en.wikipedia.org/wiki/KCNK2]
• reporting by media in a responsible way;
• introducing alcohol policies to reduce the harmful use of alcohol;
• early identification, treatment and care of people with mental and substance use disorders, chronic pain and acute emotional distress;
• training of non-specialized health workers in the assessment and management of suicidal behaviour;
• follow-up care for people who attempted suicide and provision of community support.” [3].

Prevention is not always about applying treatment before the first symptoms of mental illness appear but also about reducing or limiting the mental illness symptoms. Tips for managing anxiety symptoms:

“These tips may help you control or lessen your symptoms:

• Cut down on foods and drinks that have caffeine, such as coffee, tea, cola, energy drinks, and chocolate. Caffeine is a mood-altering drug, and it may make symptoms of anxiety disorders worse.
• Eat right, exercise, and get better sleep. Brisk aerobic exercises like jogging and biking help release brain chemicals that cut stress and improve your mood.
• Sleep problems and anxiety disorder often go hand in hand. Make getting good rest a priority. Follow a relaxing bedtime routine. Talk to your doctor if you still have trouble sleeping.
• Ask your doctor or pharmacist before taking any over-the-counter meds or herbal remedies. Many contain chemicals that can make anxiety symptoms worse.” [8].

Some of the causes of mental illness in this article have been known for decades and even centuries with a certain percentage of those causes well discussed and the remaining hardly addressed.

Now that the causes of mental illness have been identified in this article and in [25], we are able to prevent mental illness by reducing or eliminating the causes. This involves reducing discrimination, stress, fear, trauma, addictions management and bullying. It is up to Governments, local communities, industries, non-profit/NGO (Non-government Organisations) and groups to address those issues.

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