

Introduction to mental health care for general public

Abstract

Most mental illnesses and addictions are genetic chronic diseases. Many begin in childhood or adolescence, but often the first symptoms appear after 18 and sometimes after 40 years. Like all other genetic chronic diseases, they cannot be cured. However, they can be treated to achieve a stable remission, that is, life without symptoms of the disease or partial remission - to significantly reduce symptoms and achieve a better quality of life. For this, please feel free to seek professional help.

Keywords: mental health, education, psychiatry, psychosis, mania, depression, schizophrenia, recovery, family advice, mental health diagnosis

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Story and main point

The online newsletter Medical News Today reported the following story. “In 1960, Leonid Rogozov was a member of the 6th Soviet Antarctic expedition. He was the team’s only medical professional. Several weeks into the expedition, the 27-year-old surgeon noticed some of the signs of appendicitis: fever, weakness, nausea, and significant pain in his right lower abdomen. Drugs were not improving his situation; surgical intervention was needed.

As winter deepened and the sea froze, Rogozov had no hope of returning to civilization for treatment. His only option was to carry out an appendectomy on himself.

This is what he wrote in his diary: “Still no obvious symptoms that perforation is imminent, but an oppressive feeling of foreboding hangs over me... This is it... I have to think through the only possible way out: to operate on myself... It’s almost impossible... but I can’t just fold my arms and give up.”

He recruited three of his colleagues to assist him: one held the mirror and adjusted the lamp, one handed him the surgical tools as he requested them, and one acted as a reserve in case either of the others should faint or become nauseous. Rogozov also explained how to revive him with epinephrine in case he lost consciousness.

At 2 a.m. on May 1, 1961 — after medicating himself with local anesthetic — he made the first 10–12-centimeter-long incision in his abdomen. After around 30 minutes, Rogozov became weak and needed to take regular breaks, but he persevered. His self-surgery was successful, and after 2 weeks, he was back to full health”.¹

Today we know that all mental health diseases are caused by malfunctions in different parts of our body, mostly in different structures of our brain. We cannot operate and fix them like appendicitis. Yet, we can apply a variety of different evidence-based treatments to improve mental health allowing remission and recovery. Today, nobody is in a similar position to Rogozov. **Nobody needs to suffer or struggle, exercising self-treatment. If you or your loved ones need help with mental health, please come to professionals.** Modern medicine has much to offer.

This is especially important nowadays when many people reduce their social interactions due to COVID19 constraints. Reduction in social interactions decreases people’s normal support system, increasing stress and diminishing their capacity to deal with ongoing challenges. That generates triggers for more mental health problems and addictions. The COVID19 itself may lead to different mental

health conditions like anxiety, poor concentration, fatigue, and irritability.²

We are what we think

Most sources of our happiness and struggles are within our relationships with other people. To achieve happiness, most of us have to execute behavior in a way to have effective relationships.³

Everything we do is our behavior. We have a top commander that gives orders to muscles about what to do and that defines our behavior. This commander is our frontal lobe. The frontal lobe is a part of the brain which is located above our eyes behind the forehead. The brain collects all information from our receptors. Some receptors gather information from inside our body, like pain, pressure, acid-base balance, and much more. While other receptors collect sensory information from the external world, such as vision, sound, smell, taste, tactile, temperature, and sense of gravity.

The frontal lobe then crosses the data with our memories and beliefs and decides what behaviors to execute.

Based on data collected from all receptors and combined with memories and beliefs, the frontal lobe decides what behavior will be most appropriate in a given situation. This is a very complex process that sometimes happens through conscious thoughts, but mostly through unconscious processes. Yes, most of our decisions, and therefore our behavior, are based on unconscious processes that we are not even aware of. The brain knows more than the conscious mind reveals. This is the reason why we sometimes feel emotions or make choices without fully understanding their reasons. Our thoughts and emotions make who we are. Those thoughts and emotions can be real and true when they are based on real information. Unfortunately, thoughts and emotions can also be false when they are based on corrupt or false information generated within our nervous system. Still, all these true or false thoughts will finally impact our behavior.⁴

A famous quote by Lord Buddha, “**We are what we think**, all that we are arises with our thoughts, with our thoughts we make the world”.⁵ We all have different memories, different sets of beliefs, different sensitivities of different receptors, different brain structures, different capacities to form memories and to control urges and emotions, we see light a bit differently, we hear sounds a bit differently, we have a bit different emotional reactions to the same event, we have a bit different speed to process the same information and so on. This is why we all have different thoughts and therefore behave differently. All these behavioural differences, usually, are normal.

Frontal lobe malfunction

There are only a few main cases when the frontal lobe loses control. We may not act in our best interest when that happens. One case is permanent, organic changes to the frontal lobe. These are cerebrovascular accidents due to bleeding or stroke, the blood supply to the brain compromised. There are also a few degenerative diseases or dementia processes, like Alzheimer's disease that compromise brain cells functions. A person with these difficulties may become hypersexual, violent, and irritable even before we can notice any problem with memory.⁶

Another case when the frontal lobe has difficulty maintaining control is when a person has some structural changes in other parts of the brain. For example, in the part of our brain called the amygdala. The hyperactive amygdala may result in an intense urge for violence. The frontal lobe will not be able to control such an urge. For example, a severe emotional trauma may cause such malfunction in the amygdala. Structural damage due to trauma may happen to the frontal lobe itself and lead to its poor function.⁷

The third case is relatively short and reversible. It is the time when we dream. We call it the rapid eye movement phase. This is because our eyes move fast during that stage. The frontal lobe rests during that time from its control function. In our dreams, we can do things that we would never do in real life when we awake.⁸

The fourth case is when people take different substances artificially to slow down or increase the brain's activity and it compromises the frontal lobe executive function. And finally, a very short case. It is during the orgasm.⁹

Psychosis

There are cases when the frontal lobe still has very good control over our actions. Yet, a person's behavior is clearly not to the person's benefit or the person can experience significant emotional suffering or both. In these cases, the information our frontal lobe collects from different receptors is corrupt. In fact, the information doesn't even come from receptors, nor from our original set beliefs. There are some conditions that create a sort of false, nonsense information right inside our brain. Here I want to slow down and let you think a bit more about that phenomenon. Imagine you will quickly see a picture of something that 80% looks like a dog and 20 % looks like a cat. The picture is nonsense. How do you think your frontal lobe will register it? As a dog? Or as a cat? In research that was done with monkeys, they kept identifying the picture as a dog or as a cat as long as the main character was more than 50% of its type.¹⁰

What I want you to understand here is that our frontal lobe always tries to give meaning to any information. Even if this information is nonsense, the frontal lobe will give it some sort of meaning based on available memories and a set of beliefs. It may even generate a new set of beliefs. These new meanings and beliefs will not have a source in reality but in false, nonsense data that came to our frontal lobe. The frontal lobe can receive meanings of the sound, visual picture, smell, taste, or tactile that their sources are not in a real outside world but in an abnormal activity inside the brain. In these circumstances the frontal lobe is unable to determine not only whether a signal is real or not but if a signal comes from the inside or outside of the body.¹¹ We call those experiences **hallucinations** or **perceptual abnormalities**.

For the person, those experiences will be more real than real messages from real receptors. This is because the distance those false messages have to travel to the frontal lobe is much shorter than real

messages have to travel from the outside world. Therefore, people may hear or smell or see or test or have a tactile sensation of things that do not exist. At the same time when the frontal lobe gives meaning to nonsense information, it takes that meaning from already existing memory. Remember the above experiment when the frontal lobe assigned the meaning of the dog to the image that mostly looks like a dog? The frontal lobe assigns a meaning that is already stored in our memory. This is the reason people usually have audio hallucinations in the languages that they speak. The same things happened with different thoughts. The frontal lobe may form new thoughts based on that wrong nonsense data. These thoughts will not reflect current or past reality. These thoughts will not have their sources in memories. Yet they will be even more real to the person than any other thoughts. We call these types of thoughts **delusions**.

As with perceptual abnormalities, those new inaccurate thoughts which we now call delusions are usually from a person's cultural or social background. For example, a person with a strong religious background may have delusions of being a new Jesus or Buddha. A person with a technical background may have a delusion that the CIA plugged an electronic device in his home and uses his brain as a computer to save the World. False or nonsense information created by brain malfunction can be responsible also for the alteration of a person's thinking path. Normally, we talk coherently and directly to the goal. This false information may confuse a person's thinking path. It may make it not direct but full of twists and turns. Sometimes a person may even lose a connection between sentences or even between words. We call it **thought form's abnormalities**.

There are different diseases and substances that cause brain cells to be too active creating false information. As a result, the frontal lobe will execute a behavior based on these false beliefs and sensations. That can lead to very bizarre, danger to self or to others behavior. People may behave violently to protect themselves from imaginary danger. People may try to kill themselves to avoid imaginary suffering. People may stop taking care of themselves following misbeliefs. We call the manifestation of these malfunction **psychosis**. In schizophrenia, psychosis and different associated abnormal behaviors we call **positive symptoms**.

Schizophrenia can create excessive nonsense information in one part of the brain and diminish the proper information transport in other parts of the brain. Diminishing information transfer makes it difficult for the frontal lobe to execute even simple and usually automatic behaviors, like dressing up, taking a shower or initiating a conversation, or even doing a simple mathematical task can become a struggle.¹² We call those manifestations of schizophrenia **negative and cognitive symptoms**. These people's frontal lobe can be affected by psychosis and by the inability to execute simple automatic activities at the same time.

Mood

Normally our mood fluctuates. Sometimes it is up and sometimes down based on events we face. It can stay deep low for a long time, following a severe loss, or can stay much elevated for some time during a significant success. Yet, it is abnormal if it stays up or down for weeks, especially with no significant loss or success. The problem in those cases is with brain energy regulation.¹³

There is a cycle of brain activity between wakefulness and sleep. Both of these phases are active, but these are different activities. Wakefulness allows you to consciously control behavior. The sleep phase allows brain cells to replenish their reserves of resources and form memories. It is during sleep that our brain determines what to

remember and what to forget. The ability of our mood to fluctuate according to real successes and troubles is related to the correct energy and the duration of both phases. Some diseases and substances may make people experience an abnormality related to the energy level and activity of the brain, as well as impact the duration of wakefulness and sleep. This, consequently, will affect our mood.

There are a set of diseases and substances that make brain energy levels become too high and have no rest. A person initially can feel good. The concentration is high, thoughts run fast, creativity increases, low appetite allows to escape meals and the small number of sleep hours allows a person to be active longer. We call this condition **mania**. The challenge however is that within a short time depleted from rest and resources brain cells start to produce false nonsense information leading to already described above delusions and hallucinations. These mislead the frontal lobe in its executive function and can lead to dangerous behavior. During some other medical conditions, the brain activity can be too slow, leading to low mood and brain cells' malfunction. This also causes the production of already discussed nonsense information and misguides the frontal lobe in its executive function. Often such wrong information may cause the frontal lobe to see the world in a negative way and even make a decision that death is a good way to escape emotional suffering. We call this condition **depression**.

Various illnesses, including COVID-19,¹⁴ can lead to severe **anxiety**. This is a state when a person feels the approach of a terrifying threat to himself and, perhaps, to everyone around him. Sometimes it comes on as a brief occurrence and is called a **panic attack**. And sometimes it takes a long time. Like other medical problems already described, this is an extremely debilitating condition. People may experience such a degree of suffering that they can think about death as a way to stop it.

Thus, **suicide assessment** is an integrated part of any mental health assessment. It is important to underline here that any suicidal thought or behavior must be taken seriously. Please, look for professional help as soon as possible when you notice it.

Addiction

Addiction is another very evil disease. **Addiction** is an irresistible urge to repeat again and again the same negative to a person's life behavior or to consume again and again the same substance. In both cases of repeated behavior or substance, a person achieves an activation of the pleasure center in the brain. The challenge here is that this behavior or a substance destroys a person's body functions. Addiction is evil because in most cases a person thinks that he does not have a disease at all. Moreover, others may also think that a person does not have any disease. This is because some people who abuse these drugs may stop using them without any treatment. They can go through a very bad condition caused by the cessation of abuse, called the **withdrawal symptom**. And finally, this disease has a good response to peer support, a treatment method that is unusual and not clearly understood.¹⁵ Because it is so unusual it can contribute to bias and stigma that addiction is not a real disease.

Addictions to different risky behaviors may lead to death or serious life challenges. Examples of addiction behavior are gambling, search for multiple sex partners, some physically risky activities. Different addictions to substances lead to brain or other organs' malfunctions and ultimately to death too. Examples of addictive substances are heroin, opium, alcohol, nicotine, LSD, mushrooms, and cannabis. With drug addiction, the self-esteem of the patient often suffers. This is due to the endless criticism of others who think that the patient does

not have any disease and that he simply can and should change his behavior. This approach of others may lead to antisocial behavior of the patient. The patient has to lie or commit a crime in order to get the drug. Therefore, treatment begins with the patient's conviction that she/he is sick and need to see a specialist and with an increase in self-esteem. Typically, there are three genetically set conditions to make a person be predisposed to have an addiction.

One: For the majority of us, our mood fluctuates up and down around our neutral line and we often can achieve a high level of pleasure or gratitude following orgasm or some social success. A person who is prone to addiction has low regulated mood and cannot achieve the high mood or a significant pleasure from any typical activities like sex, social success, or others.¹⁶ Therefore, an addictive drug or activity becomes the only way to achieve a high mood, happiness, or even just a sense of serenity.

Two: A person who is prone to addiction has a genetic predisposition to experience a high mood or a significant pleasure from that specific substance or behavior.¹⁷

Three: The majority of us will not remember exactly how good we felt when we experienced an orgasm or some extreme happiness last time. Our memory has a tendency to pale that happiness with time. For the person with addiction, there is a genetic predisposition to keep that memory as vivid as if it happened a few minutes ago.¹⁸

These three predicaments make the frontal lobe lose control of its executive function. For example, a person may leave a house to buy milk and may not pay attention to how he found a liquor store and is already consuming alcohol. The frontal lobe simply cannot function. This is a genetic chronic disease that needs treatment.

Need for treatment

All these mental health and addiction conditions are usually genetic and therefore chronic and cannot be fixed only by exercises, change in diet, religious practices, or other non-medical interventions. These malfunctioning of brain cells are well treated by modern medications, different psychotherapy approaches, and some technical interventions like electro-convulsive therapy (ECT) or transcranial magnetic stimulation (TMC). We cannot cure these diseases as we cannot cure any genetic diseases but we know how to get the main symptoms under control, allowing people as good a quality of life as possible. In many cases, we succeed in giving people back their regular quality of life.

The best example of a well-known genetic chronic disease is type one diabetes. In this disease, the pancreas is genetically set not to produce insulin. We need insulin to escort glucose into our cells. Without insulin glucose stays high in blood vessels, damaging them, but low in body cells, damaging them as well. Yet, a constant supply of artificial insulin by injections helps to correct that situation and allows people to live a normal life.

The same is the case with the majority of mental health diseases. The regular consumption of medications and other treatments allows a sick person to significantly improve brain cells' functions or even achieve a full absence of any symptoms. It is important to underline here: only diet and exercise cannot help with diabetes type one. The sick person needs insulin. Yet, a proper diet, exercises, spiritual activities, and social support can definitely help too.

The same case exactly is with the majority of mental illnesses: the sick person needs medication and psychotherapy to allow the frontal lobe executes its function well. Yet, a proper diet, exercises, spiritual

activities, and social support help too. Not all mental health illnesses require an admission. Actually, most do not. Even though we all have some genetic predisposition to develop a mental health disorder, not all conditions are permanent. Some can be helped with medication and psychotherapy and some may need only psychotherapy.

If you see that your quality of life diminished and daily function decreased due to anxiety, mood changes, repetitive thoughts, irritability, fatigue, anger, or behavior that you cannot stop, please look for professional help.

You can consult with your family doctor or GP in a walk-in clinic or if you feel that issue is severe and urgent, please, come to the emergency room. As you see, your suffering has a very medical physiological explanation. Therefore, proper evidence-based treatment will be a good solution.

Mental health act

The conditions described above compromise frontal lobe executive function. Some people may lose their capacity to realize that they need an admission. Yet, following their brain malfunction their behavior can be dangerous to them or to other people or they may lose their capacity to take care of themselves. To ensure safety for everybody and care for people in need, Ontario has a law called the Mental Health act. Under that law, a person can be admitted for evaluation or for treatment against a person's will.¹⁹

For the general public the most important practical things to know:

One: If you identify immediate danger, please, do not hesitate to call 911. A police officer has the authority to take into custody an **emotionally disturbed individual** and bring this person to a medical evaluation in the emergency department.

Two: If you have a family member who is known for suffering from a mental illness and there is a risk of severe harm to that person or somebody else, you may fill out online a **form two** of the act. You then have to print it and bring it to a justice of the peace. The justice of the peace may authorize the detention of a person in order to bring her or him for a psychiatric evaluation in the emergency department.

Three: If you see a deterioration in a mental health condition of your family member and think that it creates a risk to an individual or to somebody else and you know that the patient was seen by a psychiatrist or family doctor within the last seven days you may call and consult with that doctor. Any doctor in Ontario may initiate a **form one** within seven days from seeing the patient. Form one allows police to bring an individual for up to seventy-two hours of assessment in hospital.

Four: If following an assessment an individual requires an admission then a psychiatrist may initiate a **form three** of a mental health act to keep the patient in an admission involuntary.

The mental health act sets very specific criteria for each form and it is always the best to achieve a person's cooperation and avoid any coercion.

Similar laws or acts exist in any other jurisdiction of any other developed country.

Admission

The majority of hospital admissions are involuntary.²⁰ This means that people may not identify their needs to get help in an intensive therapeutic environment. This environment provides not only safety and security but also intense therapeutic interventions. This may include

vital signs checks, blood and urine tests, ongoing mental assessments and emotional support, individual and group psychotherapy, and close symptoms monitoring. Many patients realize their need for such intense care and come to admission voluntarily too.

There is an interprofessional team of many different specialists that assess and care for a patient during admission. The team does its best to involve the patient and make her or him in charge of her or his own care. Sure, due to malfunction in the frontal lobe there is a variation of such involvement. The typical interprofessional team consists of nurses, occupational therapists, psychiatrists, family doctors, recreation therapists, dietitians, chaplaincy, pharmacists, health aides, security personnel, and another specialist can be called to join as needed.

Diagnoses and treatment

The diagnosis of the majority of medical diseases like diabetes can be done by evaluating different parameters in the blood. In cases of mental illness, we have no lab results to establish a diagnosis. Instead, we rely on our professional observation of a person's behavior. Having a massive database of different cases, we can predict that statistically this or other very specific behavior represents this or other diagnoses.

The collection of these specific behaviors and corresponding diagnoses is in a book called The Diagnostic and Statistical Manual of Mental Disorders or DSM for short. This manual allows professionals in different parts of the world to make a similar diagnosis based on similar behavior symptoms and prescribe a proper treatment.

Because the diagnoses are based on observed behaviors it requires some time to collect these observations. This is the reason mental health diagnosis takes so much time. Moreover, at times when new symptoms arrive, the diagnoses may change. The change of diagnosis may lead to a change of treatment. Usually, it takes from a few days to a few weeks to see the result of the treatment. In many cases, the first treatment can be not effective and a person would require a change of treatment and another few weeks to evaluate the effectiveness of the new treatment. In some cases, the side effects of treatment would be so challenging that this would be a reason to change that treatment. It is not unusual when a person has to change a treatment a few times until the exact fit will be found.

All these changes, side effects, the time required to establish the diagnosis, and the time to find the final treatment are sources for understandable frustration. Therefore, it is important to expect it and be ready that it may happen. Managing your own expectations can help you and your family to cope with all these challenges.

Recovery

Recovery is the ability to achieve the greatest quality of life despite persisting symptoms of illness. The medical team begins to work on recovery from the first day of admission. It is important to note that a patient almost never achieves the full possible recovery on a day of discharge. Admission to acute care is needed only during a period when safety is at risk. As soon as safety is established a patient will be discharged to continue recovery at home. Hospital does its best to discharge each patient as soon as possible. This is not to free hospital beds. This is to bring the patient back to his natural environment as soon as possible. Evidence indicates that prolonged hospitalization compromises a person's chances for recovery. This is because only a natural environment allows one to exercise maximum independence and social skills.

Family

Family support is an important component of treatment and recovery. With patient's permission a treatment team will try to reach out to the patient's family and include family in a care plan. Hospitals make everything possible to make family support and connection easy. They have very extended visitation hours. Their free Wi-Fi allows to stay connected through personal electronic devices. Comfortable parking and a cozy food court make family visit pleasant. A modern and spacious physical environment supports the family's needs for privacy.

Advice to families

- I. Keep in contact and show your love even if your ill family member was irritable with you or violent.
- II. Ask staff to record your family member's consent to sharing personal health information with you. Of course, if there is such consent. Without such documented consent, the staff will not be able to answer your questions.
- III. Do not argue with delusions or hallucinations. Provide your empathy and support if a patient shares with you that those are emotionally painful.
- IV. Establish a home environment as predictable as possible. Any lack of prediction generates anxiety and increases psychosis. If you promised to come and visit at a certain time, please, do your best to come on time. If promised to bring something, please, do your best to bring it. Please, avoid surprises, even positive ones.
- V. Please, diminish your expectations. Unreasonable to a patient's clinical capacity expectation can be a source of anxiety and as a result increase in psychosis.
- VI. On another hand, unrealistically low expectations may compromise patients' achievement too. If unsure, please, consult with a care team about what is reasonable.

Mental health services

There are two main ways to get mental health services in a typical hospital. One - through the emergency department. Second - through your family doctor or psychiatrist's referral.

Let me walk you **through the emergency**.

When you or your family member experience severe emotional suffering or serious behavior disturbance please come to the emergency department.

As soon as an emergency doctor will decide that you have no acute medical problem you will be seen by a crisis worker and psychiatrist. A **crisis worker** is a professional, usually, a social worker or a nurse, who helps a psychiatrist with assessment and counseling, and knows all hospital mental health services as well as all other available services in the region. The goal at that stage will be to establish a correct diagnosis as much as possible and to direct the care to the most appropriate service. The vast majority of cases require some brief intervention in emergency and referral to one of the out-patient services. Many times, a hospital able to help people right in the emergency department, diminish suffering, establish safety and avoid unnecessary admission.

If admission is necessary a person will be admitted to an inpatient mental health department. Modern hospitals have therapeutic environments. Many have large rooms for single patients with a

private shower and toilet attached to each room. An interprofessional team of different specialists will craft an individual care plan together with a patient. After discharge, the majority of patients will be referred to outpatient services to continue their recovery. The second way to get mental health services is through your doctor's referral. The description of all **out-patients services** you can usually find on a hospital internet site. Yet, I will describe some of them here just to grab your attention to what is available.

Aftercare clinic- for individuals who need metabolic monitoring and long-term injectable medications.

Child, adolescent, and family counselling- provides mental health assessment and treatment for kids and adolescents.

Community treatment order monitoring- supports patients on a community treatment order (in Ontario a patient may be ordered to see a doctor and to have an injectable medication).

Behaviour science clinic - for people with autistic spectrum disorder, developmental delay, and Acquired Brain Injury.

Day hospital- usually offers two types of intensive programs. One for people with primary anxiety disorders and the second for people with primary psychosis disorder.

Intake and urgent care clinic- to triage community referrals and to provide brief assessments and interventions.

Individual and group counselling - short term group and CBT/DBT therapy.

Repetitive Transcranial Magnetic Stimulation Clinic - for individuals with treatment-resistant depression.

Summary

One: The majority of mental illnesses and addictions are chronic genetic diseases that cause a malfunction of the main executive organ - the frontal lobe.

Two: Abnormal behaviors when people lose their capacities to care for themselves begin to behave dangerously to self or to others, experience persistent high or low mood levels that impact their ability to function properly or experience severe emotional suffering - all these are reasons to look for professional help. If you identify a danger to life this is the reason to call 911 and look for immediate help.

Three: The diagnosis may take a long time.

Four: It may also take a long time to find a proper treatment and to see the results.

Five: Exercises, diet, spiritual activities, social support, and psychotherapy cannot replace medical treatment. Yet, they can significantly improve a patient's condition by working together with medicine.

Six: The treatment goal is partial or full recovery.

Seven: Modern hospitals provide a great scope of first-class advanced mental health assessments and treatment - come and use it.

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Conflicts of interest

The author declares that there is no conflict of interest.

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