



**Author: Jozef Polaček**

My name is Izabela (17y.) and this is my diary.

17.02.2021

It is the third month of lockdown. I can't see my friends or my boyfriend, just my family, and I'm always at home. Even if we text often, I still feel alone. We have Zoom or Teams meetings instead of school. I miss my classmates. I always had fun with them, and I will miss them after graduation. I hope the pandemic will be over soon.

01.03.2021

My grandma died of COVID today. I can't even attend the funeral because of the lockdown. I loved her and I will miss her a lot. I regret not spending more time with her.

9/3/2021

Getting up early is a struggle for me. It's like getting out of bed with an additional 10-kilograms of weight. I don't know what I'm getting up for anyway. Today was the same as yesterday and will be the same as tomorrow. The only activity I have is school, which I don't enjoy over the internet anyway.

15.3.2021

I wake up tired every morning, I go to bed tired, I'm tired all day. Let it end already. Neither sleep nor coffee helps at all. I would rather sleep through my whole life. I will go to bed earlier today.

16.3.2021

I went to bed earlier yesterday. However, I didn't fall asleep until half past three in the morning, and today I had to be up at seven because of our great online classes. I don't understand why I have to get out of bed. I have to make a great effort to dig myself out from under the covers, and when I have a lesson, I can't focus on anything at all. I'm afraid that the teacher will call on me and I won't know the right answer.

22.3.2021

The lockdown ended today. I finally met my boyfriend. I missed him terribly and was so happy to see him. When we met, I wanted to talk a lot, but I didn't listen to him at all. I didn't even know what he was saying. All I thought about was how I would lie down in bed again after he left.

**1. What are the most frequent causes of psychiatric disorders? Name at least 4 (2 are in the text above).**

(2pts.)

25.3.2021

I had practice after a very long time. I was really looking forward to it because I wanted my old life to be restored. But when I had to go to the bus, I really didn't feel like going. I like gymnastics, but I really didn't want to go there today. Mom literally had to push me onto the bus. I just said hello to my friends in the dressing room. I felt like my lockdown life was boring and nobody cared. I must have seemed strange to them when I almost didn't talk to them at all. I somehow got comfortable during practice and then I was fine. Actually, as good as I haven't felt in a long time, I agreed to go to a party with them on Friday.

28.3.2021

We went to a party yesterday. It was a great feeling after such a long time. We had a few shots and life was great. We were dancing. I was telling my friend that I still feel without energy. She gave me ecstasy. In half an hour I felt as much happiness as ever and had enough energy for three people. It was a great evening. But today I'm sick, I have a headache and all I want to do is sleep. After yesterday, I'm wearing not a 20-, but a 30-kilogram weight. I feel miserable and sad.

29.3.2021

I'm not sick anymore, but I'm sadder than yesterday. I feel that I am worthless, incapable, and unable to do anything. I've been feeling this way for a long time, but today it's especially intense. I felt so sorry for myself that I cried. Then I felt embarrassed that I was crying for myself and felt even worse. And then I cried again.

## **BONUS**

**Why did Izabela feel worse after taking alcohol and recreational drugs?**

(You get 1 bonus point if you name at least 1 of the 3 reasons)

30.3.2021

In the morning, my alarm rang. It made me so mad. I do not know why. I get up every morning. But this morning was different. I felt like I only slept for an hour and the alarm didn't want to give me enough sleep. With all my strength, I got out of bed and went to school. I didn't eat breakfast or bother to put makeup on my face like usual. It took me 20 minutes to force myself to at least brush my teeth. I would prefer to stay at home all day in bed. I was tired all day, I couldn't concentrate at all. It's like my brain was in a fog. At school, the teachers asked me if I was okay. I haven't been sad at all since yesterday. But the worst thing is that I don't even know why I was sad. It's like a barrier that prevents me from functioning normally.

16.4.2021

I didn't go anywhere except for school for two weeks. I wasn't at practice, on a date with my boyfriend, or at a party. My boyfriend probably hates me when I don't go anywhere with him, and so do my friends. I don't have enough energy or mood to go anywhere. I'm still in the dark and I can't get out of it. I tell myself I'm lazy and it makes me feel worse.

28.04.2021

I've gained 7 kilos since I missed training. I don't like myself. I'm not even surprised that my boyfriend left me. I've been lying in bed since we broke up. I don't even go to school when my

parents are at work. Why would I go there if I can't learn anything anyway. I can't concentrate in class or during exams. So I'd rather not go there so I don't get fives (the worst grade).

**2. In the notes so far, you can notice that something is wrong with Izabela. Which information can indicate that Izabela has a psychiatric illness? Name 6 pieces of information that you think indicate that Izabela has a problem. (There are 11 of them in the text.)**

(1.5pt.)

20.5.2021

I have a problem. The principal called my parents and told them that I was not going to school. I had to tell my parents what was going on. They took me to my general practitioner. I told her that I am always tired, nothing makes me happy, I feel sad and I cry quite often. To rule out other causes of my condition, she took my blood for analysis and sent me for a brain imaging scan. She told me that she knew what was wrong with me, but the diagnosis would be confirmed by a child psychiatrist for sure. I have an appointment with him in a week. I'm afraid of what he will tell me.

**3. What disease does the doctor think Izabela has?**

- A. Schizophrenia
- B. Affective bipolar disorder
- C. Autism spectrum disorder
- D. Depression

**What somatic causes of psychiatric illness should be ruled out? Name at least 4 of them. Indicate what methods the doctor uses to exclude them. For each ruled out diagnosis, write 1 method to rule it out.**

(1pt. for a correctly determined disease, 1pt. for a correctly determined somatic cause of a psychiatric disease, 1pt. for a correctly determined method to exclude the cause of a psychiatric disease)

27.5.2021

I went to a psychiatrist today. He asked me many questions during the examination. He gave me a test called the Beck scale. After the examination, he told me the diagnosis. (Diagnosis is the correct answer in the fourth question.) Finding out that I had a psychiatric problem took a lot out of me. I thought I was sick for a long time. At the same time, it is also a relief. Knowing that I am sick and not lazy. The doctor told me that every fourth person suffers from psychiatric diseases. He also told me that one third of all women will experience my diagnosis in their lifetime. It's nice to know that I'm not the only one in the world. It is actually quite a common disease. He described the treatment options and scheduled me for another appointment.

**4. What is the Beck scale?**

**What treatment options does Izabela have? Name 3.**

**What medications are used to treat Izabela's diagnosis? List 3 drug groups or 3 drugs - each from a different drug group.**

(1pt. Beck scale, 1.5pt. treatment options, 1.5pt. per group/drug)

11.6.2021

I have been taking sertraline regularly for 2 weeks now. I don't feel any change. I just feel worse. I still feel tired, gaining 2 kilos, but in reality, I feel like I have 30 extra kilos. I'm sad and I don't know why. That sadness and heaviness doesn't want to go away. I want it to end. If it doesn't, I'll end it myself. Because I really can't do it anymore.

**5. What are the side effects of sertraline? Name at least 5.**

(2.5 pts.)

21.6.2021

I told the psychiatrist about my thoughts about death. He told me that it is common and that the anti-depressants don't start working until 4 weeks after starting the treatment. But I already feel that my condition is improving. I decided to attend group therapy. The doctor told me that there are people who have the same disease as me. They can give me advice and teach me a lot about healing. I'm looking forward to something after a long time.

15.7.2021

I'm enjoying the summer. I'm finally enjoying something. I feel much better than a few months ago. It's like a weight has been lifted from me and the world is no longer a dark place. I started running. I discovered that sports increase the amount of endorphins in the brain. That's why I really feel great after a run. But that doesn't mean I can stop the treatment. It will last for several months. It is also possible for my illness to return.

**6. Connect a disease with its medication.**

(1pt.)



Thank you to everyone who has read this far. In conclusion, I just want to add that the treatment of psychiatric diseases has long since been limited to putting patients in straightjackets and electroshocks. Currently, drug treatment is effective, and behavioral and group therapy is coming to the fore. Every fourth person in the world suffers from a psychiatric illness. The most common

of all is an anxiety disorder. If you feel that something is wrong with your mental health, be sure to tell someone. You will be worried for a long time. There is no shame in having a psychiatric illness. Even a girl with diabetes is not laughed at for having diabetes.

Sources:

Author of typographies of diseases - <https://igorkupec.sk/>

### 7. Match the story to the disease:

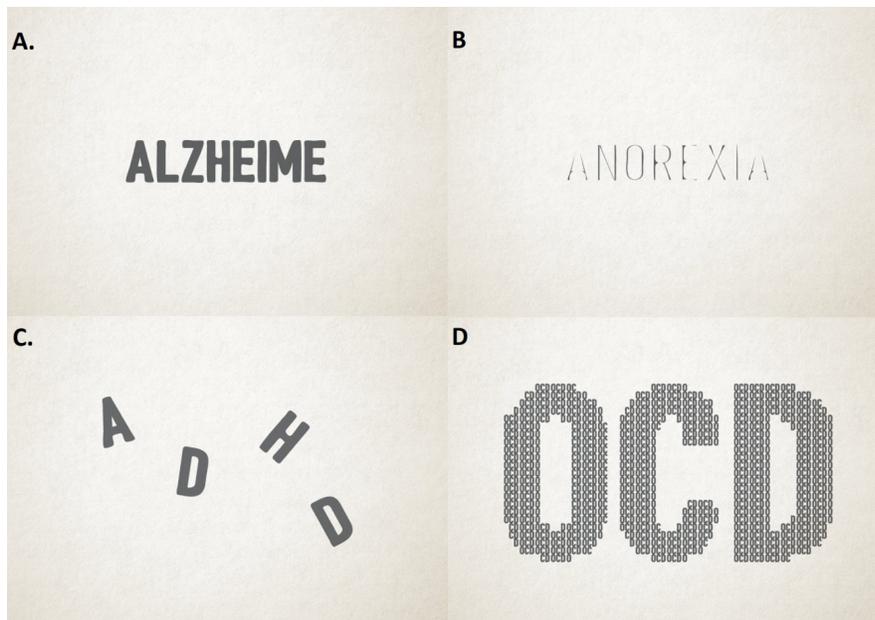
(1pt.)

1. My name is Timothy. I am 8 years old. I enjoy school, but I get bad grades. The teachers scold me because I keep acting up, running around the classroom, and not paying attention most of the time. I really try to pay attention, but I get distracted very quickly.

2. My name is Hana. I am 16 years old. My parents worry about my figure. They say I hardly eat anything, and I look like skin and bones. They don't understand me at all. They don't understand that young women must be slim to look good these days. It bothers them that I follow a diet and exercise every day.

3. My name is Adam. I am 22 years old. I don't like strangers and especially not when I have to touch them. I am afraid that I will be infected with the HIV virus. Because of this, I sometimes wash my hands 30 times a day. I wear rubber gloves at work so that I don't have to touch anything with my bare skin.

4. My name is Robert. I am 71 years old. My wife worries about me. Apparently, I get lost sometimes. But I don't remember anything like that. I just sometimes forget where to turn when going to church.



## Task 2

**Author: Laura Bajková**

19.08.2021

Lola is thirteen years old and comes to the psychiatrist's office for her appointment once a week. She's a petite girl, wearing flagrantly loose clothing as if she's trying to cover something up. It has been a month since her hospitalization in the department of child psychiatry. She was admitted to the hospital because of a suicide attempt.

As a child, she assisted in a scene during which her father, a violent and manipulative drug addict, in her own words, tried to kill her mother. He states that he has frequent flashbacks from this scene. As for her peers, she states that a lot of her life takes place in the virtual space. Most recently, after several months of texting with a boy she met online, she went to a city 200 km away for a first meeting. Looking at the family history, Lola's mom suffers from bipolar disorder and depression.

At today's meeting, she describes that recently she started hurting herself again "because she wanted to feel something". The psychiatrist advises her to try applying cold ice to her body the next time she has such an urge. She is afraid of the new school year because she has experience with bullying. But she also shows a positive mood, tries to study for school and prepare for math lessons during the break. She has a dream, she would like to attend photography school in Paris, she has resilience and has already discussed this project with her mother, who would like to support her in it.

Sometimes during work, she begins to feel as if life is just a movie and she looks at it in a depersonalized way, often losing concentration. Recently, it happened again that she sees moving objects or a strange person in her room.

During the session, she describes that she only takes the prescribed Atarax in the evening for uncontrollable anxiety. Apart from that, she is also prescribed Sertraline and Risperidone every day. The psychiatrist asks her if she feels anxiety in the morning or in the evening, Lola replies that they appear regularly only in the evening.

**1. Try to correctly classify the following mental disorders in the following table. Explain in your own words the term organic mental disorder and try to decide whether Lola suffers from an organic or functional disorder. (2.5pts.)**

	Psychotic	Non-psychotic
Organic		
Functional		

- anxiety disorders, schizophrenia, delirium tremens, pseudo neurasthenia

2. Why does the psychiatrist ask if Lola feels anxious in the morning? Explain the concept of morning pessimism and write what they are a symptom of. (1 pt.)

3. Atarax belongs to the group of \_\_\_\_\_ medications. It binds agonistically/antagonistically to \_\_\_\_\_ receptors.

a, Explain the term receptor agonist and receptor antagonist.

b, Explain why the allergy drug Zyrtec, which binds to the same receptors, does not cause the same effects as Atarax.

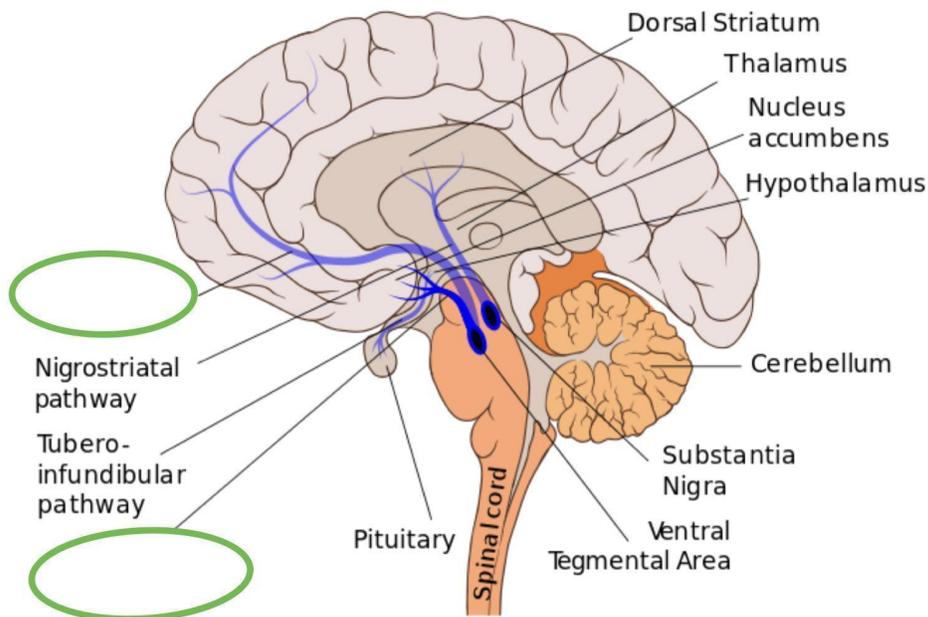
c, Describe the role of histamine in the central as well as peripheral nervous systems. (4pts)

4. Risperidone; complete or choose the correct answer (4.5pts)

All antipsychotics have a common property, which is that they antagonize the \_\_\_\_\_ receptor. If Lola had lived in the early 1950s, her psychiatrist would probably have prescribed the molecule chlorpromazine. This molecule, belonging to the 1st generation of \_\_\_\_\_, was abandoned, the main reason being strong extrapyramidal effects, such as \_\_\_\_\_ (state 1).

Extrapyramidal effects are caused by blocking the **nigrostriatal/tuberoinfundibular** pathway precisely with neuroleptics such as chlorpromazine. The reason why second-generation antipsychotics are in use, the so-called atypical antipsychotics, is that they have a lower effect on this pathway.

5. Another side effect in patients taking antipsychotics is hyperprolactinemia, try to explain how it occurs. (1.5pts)



Now we will go more into dopamine in the brain. It is created in two areas: \_\_\_\_\_ and \_\_\_\_\_.

Add to the marked green places where the mesocortical and mesolimbic pathways, one of the 4 dopamine pathways (except tuberoinfundibular and nigrostriatal) are located.

For Lola's positive symptoms (she sees moving objects, sees people in her room = "something that is "extra"), an increased/decreased amount in the mesolimbic/mesocortical pathway is responsible.

For Lola's negative symptoms (problems with socialization, concentration, cognitive problems = "something missing") An excess/deficiency of dopamine in the mesolimbic/mesocortical pathway is responsible.

Risperidone also has a high affinity for 5HT<sub>2A</sub> receptors of 5-hydroxytryptamine, a neurotransmitter otherwise called \_\_\_\_\_.

### 5. (2pts)

The year 1986 drastically changed the treatment of depression, with the introduction of the fluoxetine molecule to the commercial market, probably the most well-known antidepressant by the name of \_\_\_\_\_.

It belonged to the group of drugs \_\_\_\_\_, like Lola's drug \_\_\_\_\_ whose target is the \_\_\_\_\_ transporter molecule.

In therapy of depression in young people, the conversation about the illness itself has a great role and therapeutic effect.

Serotonin does not only have functions in the brain, its other important function at the level of the CNS is, that it suppresses \_\_\_\_\_ at the spinal cord level.

In addition to its function as a neurotransmitter, this molecule can also be described as a hormone, because it is mostly found in the gastrointestinal system, where it is produced and secreted from \_\_\_\_\_ cells and has a stimulating/inhibiting function of peristalsis and secretion.

Serotonin is also released by blood cells, \_\_\_\_\_, its efflux from them induces \_\_\_\_\_ of vascular smooth muscle and aids coagulation.

### Task 3

**Author: Josef Hoang**

**Translated by: Anna Malová**

Introductory text to the task:

Parents bring a little boy - Miško (28 months) to the doctor's office because "he doesn't talk like others his age".

The pregnancy proceeded normally, without complications, the birth was on time. During the first year of Miško's life, his parents did not notice anything special about him, except that he was less interested in playing compared to other children. At 16 months, he was still not talking, only babbling occasionally. At the same time, he did not express his feelings towards his parents or siblings. He got angry very quickly, especially when something happened outside of the mode he was used to, and he calmed down by rocking back and forth, or slowly spinning around.

At the beginning of the examination, he didn't say a single word, and concerning his temperament, he was irritated the whole time. The parents mentioned that he never makes much eye contact with others, let alone maintains it. He gets angry quickly when someone tries to make eye contact with him. Otherwise, during the examination, he looked like a normally active, healthy toddler who wanders around the office and cheerfully ignores the doctor and parents. But he pays attention to books, which he pulls out from time to time or otherwise touches, but without a hint of playfulness. When his mother tries to stop him, he screams, looks up at the ceiling, waves his hands, then retreats into a corner and rocks back and forth. The way he walks is age-appropriate, but when reaching for objects his movements appear less coordinated than is usual for children his age.

Apart from the mentioned problems, he shows no signs of dysmorphia, no skin diseases. He is physically healthy, has not been hospitalized and has not undergone any surgery. His vaccinations are in accordance with the mandatory schedule.

Regarding the family history, there were no similar developmental problems in the family during childhood. Miška's two older siblings are also healthy and in terms of the development of the nervous system.

**1. Describe the normal development of speech in a child. Don't forget signs related to speech, such as sounds or vocabulary and sentences. Also focus on how Miško deviates from the norm. (2pts)**

In the case of disorders of the development of intellectual abilities (among which we can include the development and understanding of speech), it is important to distinguish whether it is a **developmental delay** or a **developmental regression**.

**2. Briefly describe what each term means (including the difference between them) and try to determine which of these problems will be solved in this task and justify your decision. (3pts - 2pts for concepts, 1pt for determining the problem)**

Delayed speech development in children can be a stand-alone disorder, but it also occurs as part of larger developmental disorders affecting multiple areas. When examining this problem, four main areas are tested that children develop: gross motor skills, fine motor skills, language skills, and the development of social behavior and cognition.

**3. Design a simple test for each mentioned domain that can be done at the doctor's office. Typical office supplies and medical supplies commonly used by a general practitioner are available. Remember that the patient is only 28 months old, and it is necessary to pay attention to the risks typical for children of this age. Also evaluate what results Miško would have in these four areas, based on the introductory text. (3pts - 0.5pt for each domain + 1pt for evaluating Miško's condition)**

In addition to delayed development in some of the main areas mentioned, Miško also shows signs of what we might call quirks, but these are stereotypes (i.e., mechanical and automated behavior or expressions) that also relate to Miško's problem.

**4. In the introductory text, find at least 2 of the 4 symptoms that are described by stereotypes and are probably related to his developmental disabilities. (2pts)**

It is now clear that Miško suffers from what we commonly call autism. Autism, more precisely disorders of the autistic spectrum (autistic spectrum disorders, ASD), includes a whole range of different causes and consequences. We typically distinguish 3 categories called autistic disorder, Asperger's syndrome, and PDD-NOS (pervasive developmental disorder not otherwise specified). In general, these are disorders in communication skills, social interactions, repetitive behavior, and stereotypes also occur.

Early diagnosis, which leads to therapy, is important for a child on an autism spectrum disorder. The prognosis is relatively good if diagnosed early - the disorders are not progressive, but with further development, other defects may also begin to manifest themselves, as mental abilities gradually rise to a higher level. In the case of less serious disorders, it is possible for the child to improve significantly in the area of social skills, in more serious cases, the probability of improvement is not so good. Based on the state of abilities during the examination, it is possible to say how the affected functions are likely to develop - for example, if a child has not yet learned to speak at the age of 5, it can be assumed that he will no longer acquire sufficient communication skills.

**5. Find out what approaches are currently used to improve the state of mental abilities. (1pt)**

**6. Solve additional questions related to developmental disabilities. It can help you solve them if you have well-prepared answers to the previous tasks. Do not forget to write a brief justification for each answer. (4pts - 1pts per question)**

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1. Of the following cases of developmental defects, which is the most concerning?

- A 3-year-old child who has not yet started talking
  - B. A 5-year-old child who has mild developmental delay in all 4 researched areas
  - C. A 2-year-old child with cerebral palsy and epilepsy
  - D. A 30-month-old child who was already talking normally for his age, but now not utter a single intelligible word
  - E. A 4-year-old child who has always been clumsy
2. The Denver Developmental Screening Test is best described by the characteristic:
- A. comprehensive evaluation of all areas of development
  - B. an unnecessary tool due to the existence of modern devices such as MRI
  - C. a quick method to detect potential developmental defects in a regular doctor's office
  - D. a well-standardized tool for the diagnosis of autism spectrum disorders
  - E. a test of expressive and perceptive abilities
3. Which of the following is most important in diagnosing autism spectrum disorders?
- A. incidence of autism in the family
  - B. atrophy of the frontal lobe of the brain visible on the MRI image
  - C. development of symptoms before 5 years of age
  - D. normal language functions
  - E. abnormal social relations
4. Which of the following interventions is most important for a child who has been diagnosed with one of the autism spectrum disorders?
- A. prescribing a less common antipsychotic (eg, risperidone) in a low dose
  - B. not give any further vaccinations
  - C. setting up a structured program for the child's education and development
  - D. involve the child in social and collective activities (e.g. games and sports)
  - E. daily multivitamin therapy