

Kod \_\_\_\_\_

Wynik \_\_\_\_\_ / 58

**USE OF ENGLISH**

**EXERCISE 5. Read the text below and circle the most suitable option (A, B, C or D) to fill in the gaps.**

**Gut bacteria, probiotics and the link between helping stress, anxiety and depression**

The (1) \_\_\_\_\_ that bacteria living in your gut can affect your brain may seem odd. Yet a (2) \_\_\_\_\_ of research indicates that intestinal bacteria are intimately entwined with the function of our bodies – and our brains. Scientists at Oxford University recently made an important (3) \_\_\_\_\_ in this field with a study demonstrating that consumption of prebiotics affects both emotional processing and stress hormone levels in healthy volunteers.

There are two ways to manipulate the microbes in the gut (collectively, the microbiome): by consuming live cultures of bacteria called probiotics; or by (4) \_\_\_\_\_ certain types of sugar molecules, known as prebiotics, that (5) \_\_\_\_\_ growth of these bacteria. While previous research has established that probiotics can alter human brain function, similar effects of prebiotics have until now only been found in animals. The Oxford study is the first to show prebiotic effects on human behaviour.

The researchers were particularly interested in whether the prebiotics would affect emotion and stress, as much of the data on the microbiome-brain connection (6) \_\_\_\_\_ the role gut bacteria play in stress-related disorders like anxiety and depression. Patients with these disorders may experience digestive as well as psychological symptoms, and studies indicate that the number and type of bacteria in the gut influence anxiety levels. Probiotics appear to lower anxiety in humans, so the Oxford team (7) \_\_\_\_\_ out to investigate whether prebiotics do the same.

To do so, they recruited healthy volunteers to take one of two types of prebiotic, or a placebo, each morning for three weeks. At the end of this period, the volunteers (8) \_\_\_\_\_ a series of tasks designed to test emotional processing. One of these tasks turned up a positive result: volunteers who took a prebiotic called B-GOS paid less attention to negative words, and more attention to positive ones, than those taking placebo. Volunteers taking B-GOS also had lower levels of the stress hormone cortisol in their saliva after three weeks on the prebiotic than they had at the beginning of the experiment.

Interestingly, the second prebiotic tested, FOS, affected neither emotional processing nor cortisol levels. This difference is in (9) \_\_\_\_\_ with previous work showing that B-GOS more strongly stimulates the growth of intestinal microbes than does FOS. As these findings highlight, research on the microbiome must (10) \_\_\_\_\_ account not just of the distinction between probiotics and prebiotics but also of differences among classes of prebiotics.

The effect of B-GOS on the attention task is similar to results found when healthy volunteers were given anti-anxiety or anti-depressant medication and asked to perform the task. The way attention is caught by emotionally charged stimuli (like the positive and negative words used in the test) is thought to be a key feature of anxiety disorders and depression.

If attention too easily latches onto negative or threatening thoughts, or if it stays stuck on those thoughts for too long, this may contribute to anxious or depressive symptoms. The finding that prebiotics shift attention from the negative towards the positive thus suggests that they might have therapeutic uses.

As the study's senior author Dr. Philip Burnet notes, (11) \_\_\_\_\_, prebiotics and probiotics are likely to be administered as adjunct therapies alongside current pharmacological and psychological treatments rather than on their own.

Prebiotic effects on cortisol are similarly intriguing. The body's stress response system (12) \_\_\_\_\_ a close relationship with the microbiome. In fact, animal studies indicate that the bacteria present in the gut in early life affect the development of the stress system and shape how the animal responds to stress in adulthood. The (13) \_\_\_\_\_ effect of prebiotics on cortisol levels seen in the Oxford study are evidence of the microbiome's continued influence over the stress response system and, given the role stress plays in psychiatric disorders, further supports the potential use of prebiotics as adjunct therapies for anxiety or depression.

The (14) \_\_\_\_\_ between stress and gut bacteria may be relevant for diseases of the gastrointestinal tract as well as of the brain. Stress is thought to play a role in disorders like irritable bowel syndrome, Crohn's disease, and colitis. The question of how the microbes fit into this picture is a hot one, and much of the data on probiotics and prebiotics comes out of studies of such disorders.

Mounting evidence thus indicates that manipulations of the microbiome affect both the brain and the body. The influence of probiotics on brain function has been demonstrated, and this latest research from Oxford has now opened the door for investigation of prebiotic effects. The study of the microbiome-brain connection will likely (15) \_\_\_\_\_ in coming years given its potential to contribute to treatment of stress-related diseases.

- |                     |              |               |                |
|---------------------|--------------|---------------|----------------|
| (1) A) belief       | B) notion    | C) opinion    | D) knowledge   |
| (2) A) great number | B) lots of   | C) good deal  | D) few         |
| (3) A) invention    | B) finding)  | C) advance    | D) development |
| (4) A) swallowing   | B) tasting   | C) ingesting  | D) absorbing   |
| (5) A) care         | B) cultivate | C) contribute | D) nurture     |
| (6) A) covers       | B) concerns  | C) affects    | D) applies     |
| (7) A) gave         | B) set       | C) took       | D) put         |
| (8) A) completed    | B) concluded | C) achieved   | D) answered    |
| (9) A) regard       | B) line      | C) similarity | D) respect     |
| (10) A) give        | B) have      | C) take       | D) make        |
| (11) A) despite     | B) still     | C) although   | D) however     |
| (12) A) owns        | B) shares    | C) holds      | D) enjoys      |
| (13) A) dampening   | B) lowering  | C) decreasing | D) reducing    |
| (14) A) association | B) link      | C) tie        | D) bond        |
| (15) A) boost       | B) intensify | C) rise       | D) strengthen  |

**EXERCISE 6. Complete each gap with ONE word only.**

**Children should not be allowed smartphones in bed or at mealtimes, say experts.**

The UK's chief medical officer (COM), Dame Sally Davies, is calling 1) \_\_\_\_\_ parents to ensure that the time children spend on phones and tablets does not interfere 2) \_\_\_\_\_ their sleep, exercise and education. The officers have released guidelines advising on measures parents should 3) \_\_\_\_\_, including not letting children use their devices in bed or during mealtimes.

The new recommendations follow a review by the Commons science and technology select committee, which assessed evidence 4) \_\_\_\_\_ the impact screen-time has on children's mental health and well-being. The review found that heavy use of social media was associated with a two-fold increase 5) \_\_\_\_\_ risk for depressive symptoms.

Of teenage girls who spent more than five hours a day on social media sites, 38.1% suffered from depressive symptoms, compared with 18.1% of those who spent three hours or less on the sites. The corresponding figures for teenage boys were 14.5% and 6.8%.

The review also states that there is not 6) \_\_\_\_\_ sufficient evidence to make specific recommendations about the daily limits for screen time. However, the CMO guidelines advise taking a "precautionary approach" and limiting children to no more than two hours 7) \_\_\_\_\_ a time on smartphones and similar devices.

Not only 8) \_\_\_\_\_ CMO advise that children take a rest from using such devices 9) \_\_\_\_\_ couple of hours, but she also recommends being careful about sharing photographs and ensuring that they get enough sleep. She is also requesting digital technology companies to make more effort to enforce age limits and limit the "normalization" of bullying and self-harm.

Davis also advises that parents talk to their children about the content they are viewing and to be 10) \_\_\_\_\_ the lookout for changes in behaviour.

**EXERCISE 7. Complete the sentences with the correct form of the word given in capital letters.**

1. Hyperplasia or hypoplasia are the most common tooth .....  
(FORM)
2. I have been sent a notice that my dental appointment was .....  
(SCHEDULE)
3. His knee had been .....repaired in 2018, but as it was only a temporary  
fix the surgeon decided to have a full replacement. (SURGEON)
4. Why has the patient's condition ..... recently? (WORSE)
5. The pathologist wanted to make sure that the patient didn't die due to  
..... so he ordered a repeat test. (DIAGNOSE)

6. .... foetal cardiac surgery is performed to correct congenital heart defects when the baby is still in the womb. (UTERUS)
7. Plastic surgery malpractice may result in serious medical problems including damage to nerve endings, numbness, and in rare cases face ..... (FIGURE)
8. Apply this pain relief ..... on the skin over the painful joint (TOP)
9. In autoimmune diseases all treatments target symptoms and not the ..... causes of the disease. (LIE)
10. In the States, a/an ..... is a person who runs a drugstore and is authorised in to fill prescriptions. (DRUGSTORE)
11. .... therapies, also called natural healing, are based on manipulation or movement of one or more body parts. (MANIPULATE)
12. Swelling can be ..... by applying an ice pack . (EASY)
13. There is ongoing research for ..... of allergy with nanotechnology. (NEUTRAL)
14. In medical articles correct and thorough data should always ..... (PREVALENCE )
15. The lab tests allow to assess ..... before they develop. (NORMAL)
16. Temporaries ..... solve the problem. (MOMENT)
17. Haemorrhage is an ..... escape of blood from the vein or artery. (CONTROL)
18. Burs and scalpels are ..... (AUTOCLAVE).
19. He has been suffering from ..... tonsils for over a month. (INFLAMMATION)
20. Failed X-Ray machine can have ..... results on the human's body. (DISASTER)

## EXERCISE 8

**Rewrite the sentences so that the meaning stays the same – use between 3 to 8 words, including the word given:**

1. What gave you the impression that the patient was under the influence? **LED**

What was ..... that the patient was under the influence?

2. After a long and eventful labour, the midwife finally cheered when she saw the baby move. **SIGHT**

After a long and eventful labour, the midwife's spirits ..... the baby's movements.

3. This American geneticist and biophysicist played a crucial role in the discovery of the molecular structure of DNA, the substance that is the basis of heredity. **INSTRUMENTAL**

This American geneticist and biophysicist ..... discovering the molecular structure of DNA, the substance that is the basis of heredity.

4. Your overall health would be greatly improved by regular exercise. **WONDERS**

Regular exercise would ..... your overall health.

5. If the baby had been vaccinated according to the recommended schedule, the girl be alive now.

**INOCULATED**

Had ..... all the major childhood diseases, she would be alive now.

6. The movie “Vaxxed” was so controversial that it was banned in most European countries. **CAUSED**

Such was ..... the movie “Vaxxed” that it was banned in most European countries.

7. The consultant said that he had paid attention to patient’s complaints and would take the appropriate action. **NOTE**

The consultant said that he had ..... accordingly.

8. A chemical reaction in a lab caused the fire yesterday. **RESULTED**

The fire ..... in the lab yesterday.

9. It was my first major operation. **OPERATED**

I ..... before.

10. Without government grants, many scientists would be unable to do any research. **FOR**

If ..... many scientists would be unable to do any research.

11. They won’t let you smoke anywhere near a hospital. **BE**

You ..... anywhere near a hospital.

12. Someone heard the Minister of Health day that reproductive rights of Polish women were of no concern to him. **WAS**

The Minister of Health ..... reproductive rights of Polish women didn’t really bother him.

13. I prefer having a tooth extraction to a rectal examination. **SOONER**

I ..... have my rectum examined.