ABSTRACT

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Title of diploma thesis: Intestinal microbiota and mood disorders

The intestinal microbiom is composed mainly of two dominated strains - *Bacteroidetes* and *Firmicutes*. The other strains are just not numerous like the previous ones. The specimens have the invariable core of microbiom which doesn´t change in time. Nevertheless they have also the transient gut bacteria, which change during their life. Intestinal microbiom is influenced by many factors. Between them we can categorize for example the way of the childbirth, the breast - feeding, the alimentation, the state of health, and the medicaments. Every specimen has own specific microbiom. It was found that human population is possible to divide into three intestinal groups or enterotypes. To each enterotype dominates different bacterial strain. It was proved that intestinal microbiom communicates with the brain and it works also vice versa. This communication system is called "brain – intestine" and takes several ways in several body systems (such as nervous, endocrine, metabolic, and immune). To normal development of the brain is needed the right colonisation of non – pathogenic bacteria in the gut. The disruption of the microbiom´s symbiosis can lead to the mood disorders and can cause the neuropsychiatric disorders (like depression, autism, schizophrenia, and ect.). Moreover it was found that serotoninergic system plays an important role in pathogenesis of mood changes. It means that if there´s the influence of microbiom, the accessibility of tryptophan is influenced too, which is the precursor of serotonin. Regarding this fact there are the speculations of new groups of the substances, the so – called psychobiotics, which can fix the composition of intestinal microbiom and consequently improve the neuropsychiatric conditions.

Key words:

brain-gut axis, microbiota, microbiome, mood disorders, depression, anxiety, stress-related behaviour, serotonin