



disorders. In all countries, mental health problems are much more prevalent among the people who are most deprived.

According to WHO, the main factors affecting the mental health of the population can be divided into two groups: 1. Protective factors: social capital and social security, a healthy mother's lifestyle during pregnancy, a healthy childhood situation, a healthy state of affairs at work and at home, healthy lifestyle; 2. Risk factors: poverty, poor education, disorders, big debts; fetal hypotrophy, childhood abuse, poor parental relationships, inherited mental health problems (including genetic factors that cause chemical imbalances in the brain and, as an example, depressive disorders); unemployment, job insecurity, industrial stress; abuse of alcohol or drugs; situations related to the impact of emergencies and extreme stress. It should also be emphasized that a fairly complex relationship between physical and mental disorders has been confirmed. Untreated psychiatric disorders lead to adverse effects of comorbid somatic diseases.

Therefore, evaluating the level of all these indicators, we can conclude that mental health of the Ukrainian population is unsatisfactory. In addition, there is a lack of staff and financial resources, and there is no National Mental Health Policy. Speaking about particular steps to improve the mental health of the population of Ukraine, taking into account its current state and trends, all those events occurring in Ukrainian society, without proper national legislation and policy in the field of mental health, with the establishment of a well-functioning public health system where mental health should occupy one of the leading places, the country can not do without. Otherwise, the state of mental health will deteriorate in the near future, the levels of morbidity and prevalence of not only mental and behavioral disorders, but also of other classes of diseases, mortality, and suicide rates will increase, and then life expectancy should not be counted on. The state of mental health of the population also requires the development and adoption of the State Program for the Mental Health of the Population of Ukraine, which should be comprehensive and multi-sectorial with clear tasks for each sector within their competence.

The WHO Director-General has identified mental health for accelerated implementation within WHO work covering 2019-2023. This WHO Special Initiative seeks to ensure universal health coverage involving access to quality and affordable care for mental health conditions in 12 countries to 100 million more people. The initiative will advance policies, advocacy and human rights, and scale-up quality interventions and services for people with mental health conditions, including substance use and neurological disorders. For continued scale up and global learning, WHO will implement this work in 12 priority countries, working in partnership with Member States, local, and international partners, as well as organizations of people with life experience. We hope this special WHO initiative will touch our country as well and it will help solve problems in this area.

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INVESTIGATION OF CERTAIN ASTERACEAE PLANTS FATTY ACID COMPOSITION

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Recently, much attention has been paid to the study of medicinal plants' lipophilic complexes, part of which is fatty acids, which play an important role in the life activities of a human body. The plants of the Asteraceae family, such as yacon (the *Smallanthus sonchifolius* (Poepp. and Endl.) H. Robinson), stevia rebaudiana (Bertoni) Hemsley and cat's paw (*Antennaria dioica* (L.) Gaertn.), contain the complex of biologically active substances, among which a significant place is given to lipophilic components (fatty acids, carotenoids, chlorophylls, etc.). In the sources of scientific literature, there is not enough information about the studied species' fatty acid composition. Therefore, the objective of our research is to study the lipophilic fractions of stevia leaves, yacon root tubers and leaves, cat's paw herbs, and to determine the content of fatty acids in their composition.



Lipophilic fractions of the studied species are obtained by exhaustive extraction of raw materials with chloroform in the Soxhlet apparatus. Determination of qualitative composition and quantitative content of fatty acids in the investigated medicinal plant material is carried out by the gas-liquid chromatographic/mass spectrometric method of fatty acids methyl esters on the gas chromatographic/mass spectrometric system Agilent 6890N/5973inert (Agilent Technologies, USA). The identification of fatty acid methyl esters in the test mixture is carried out by comparing the retention time of fatty acids methyl esters standard mixture (Supelco, USA). The NIST 02 mass spectrum library is used.

The isolated lipophilic fraction from yacon root tubers is a thick oily homogeneous mass of brown colour with a pleasant specific odor; not soluble in water and ethanol, but readily soluble in chloroform. Lipophilic fractions of stevia leaves are of dark green colour; cat's paw herbs – light green colour; according to other physical indicators, the obtained substances do not differ. It is established that the yield of lipophilic substances from yacon and stevia leaves are almost the same – $(9.55 \pm 0.09) \%$ and $(9.05 \pm 0.07) \%$, from yacon roots - in 2.4 and 2.2 times smaller than leaves, respectively. The yield of the lipophilic fraction from cat's paw herbs is $(8.25 \pm 0.09) \%$. 9 fatty acids are detected in the lipophilic extract of yacon leaves and cat's paw herbs, 2 of which are polyunsaturated (linoleic and linolenic). 8 fatty acids are detected in the lipophilic extract of stevia leaves, where linolenic acid is present in the largest number. The lipophilic extract of stevia leaves and cat's paw herbs contains the saturated palmitic acid. The content of unsaturated fatty acids in the studied lipophilic extracts predominates over saturated ones. Their ratio in yacon leaves is 55.35:8.63; stevia leaves – 3.04:1.87; cat's paw herbs – 29.09:20.26, respectively. Only the linoleic and linolenic acids are identified in the lipophilic extract of yacon root tubers.

The fatty acid composition of the lipophilic fractions of stevia leaves, yacon root tubers and leaves, and cat's paw herbs is determined by the gas-liquid chromatographic/mass spectrometric method for the first time. The content of unsaturated fatty acids in stevia and yacon leaves, and cat's paw herbs predominates over saturated ones. Polyunsaturated fatty acids (linoleic and linolenic) are dominant in the investigated objects. Only linoleic and linolenic acids are identified in yacon root tubers.

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STATE OF THE GLOMERULAR-TUBULAR AND TUBULAR-TUBULAR BALANCE DURING THE FIRST STAGE OF FEVER

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The performance by the kidney of osmotic, volume-, acid-, and ion-regulating functions to ensure homeostasis of the organism substantially depends on the maintenance of glomerular-tubular and tubular-tubular balance. In the first stage of fever (temperature rise) changes in the functional state of the kidneys were characterized by a decrease in glomerular filtration, and, accordingly, diuresis, the development of retention azotemia, proteinuria, and an increased excretion of sodium ions against the background of inhibition of absolute and proximal reabsorption. Such kidney function disorders are accompanied by disorders of the glomerular-tubular and tubular-tubular balance. The purpose of the work is to find out the state of the glomerular-tubular and tubular-tubular balance under the conditions of the development of the first stage of fever.

In experiments on 30 male white nonlinear rats weighing 0.16-0.20 kg, aseptic fever was investigated, which was modeled by a single intraperitoneal injection of pyrogen at a dose of 25 $\mu\text{g}/\text{kg}$. The state of glomerular-tubular and tubular-tubular balance was evaluated by correlation analysis between the processes of glomerular filtration, absolute, proximal, distal reabsorption of sodium ions and relative reabsorption of water.

In the first stage of fever (temperature rise), positive correlations between glomerular filtration and absolute ($r = 0.981$, $p > 0.001$) and proximal reabsorption of sodium ions ($r = 0.981$, $p > 0.001$) were found with the introduction of the pyrogen. Absolute reabsorption of sodium ions