INNOVATIVE INTEGRATED TRAINING IN HEALING PLANTS BUSINESS

IO3 - The Total Business Plants

Training Material

Module No. 5

“Medical use of therapeutic plants”

Unit 6

Biognosis

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Unit 6

Improvement of everyday life and general health status: Alternative pharmaceutical products, and best practice for a better life.

Summary

Here are presented main causes of external body toxication and how living habits can drive to body toxication; key information for detoxification and the role of human organs participating to the process; as well as examples of medicinal plants used for improving certain health conditions.

- **Learning outcome descriptors**

By the end of the course, the trainee should be able to demonstrate:

Knowledge, understanding and professional skills:

1. Recognize the main causes of external body toxication
2. Understands the role of human organs in detoxification
3. Classify herbal drugs dedicated to improve everyday life and certain health conditions

General and transferable skills:

1. Show good written and oral communication skills.
2. Demonstrate general computer literacy
3. Perform computer search to retrieve information from other sources
4. Show ability to use information retrieved for improving professional status
5. Plan tasks and work independently
6. Work in team with minimal guidance where appropriate.

Unit 6

Improvement of everyday life and general health status: Alternative pharmaceutical products, and best practice for a better life.

In the contemporary world, living habits can drive to body toxication. External body toxication is caused by food and water, through lungs, skin, and other way, as parenteral, ocular, etc. Internal toxication is caused by disturbed cell metabolism. Detoxication or

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drainage is the process through which, one or more organs of the body are mobilized or stimulated for the elimination of toxins. According to the Russian academic Levin, toxin is any substance found in the body at the wrong place, time or quantity. It may be a derivative component of the organism's biochemical laboratory or an external substance originating from the external environment.

Symptoms of toxicosis are bowel dysfunction, metallic or bitter taste, fatigue, poor mood, headache, hair loss, obesity, cellulitis, edema, skin problems. It is understandable that all diseases are burdened when there is toxicosis.

Plants can help us improve our daily life. Before we talk about it, we need to deal with the meaning of detoxication.

The main causes of the poisoning.

1. Bad eating habits.

Our diet needs to be balanced in order to get all essential nutritional elements. Any excess in diet can lead to toxicosis. This means that even nutrients, such as vitamins, can be converted into toxins if we take them in bigger dose or for a very long time. A typical example of vitamin A hypervitaminosis was first described in explorers of the Poles. They ate large quantities of pollen and suffered acute vitamin A poisoning. Even excessive amounts of water can cause toxicity that occurs with low sodium content in the blood, having very unpleasant health consequences. Water poisoning is very common in endurance sports and power sports, lasting longer than 4 hours.

Another important factor is the way food is grown. It is understandable that when someone consumes organically cultivated food, takes fewer chemicals than those eating foods that have been cultivated by using fertilizers, pesticides, etc.

2. Intense stress.

It is well known that in order for the body to function properly, the functioning of the sympathetic and parasympathetic system must be balanced. In chronic stress, there is an increased chronic prevalence of the sympathetic and which results in metabolic dysfunction and toxicosis.

3. Environmental contamination.

A great risk for our body is the substances that have no biological role, such as arsenic, lead, other heavy metals, dioxins, etc. They are imported from the external environment into the body either through inhalation, via food and water consumption, or by using detergents, for household applications, etc. One category of such substances is heavy metals. Some heavy metals (such as copper, selenium, zinc) biologically active are used as catalysts of human body metabolic reactions. But at higher concentrations they are also toxic to the organism (Karamperopoulos D., 2011).

4. Chemical substances imported into the body, such as strong chemotherapy, vaccines, etc.

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It is well known that during many medical therapies large amounts of chemicals are introduced into the body that can cause various side effects.

5. Lack of physical activity.

Physical exercise has positive effect on balancing the function of nervous system, both sympathetic and parasympathetic, and this result in better functioning of the excretory organs of human body and the improvement of overall metabolic function.

6. Disorders of mind and emotion.

Disturbances in intellect and emotion can cause disorder on the function of the nervous system, resulting in chronic sympathetic dysfunction and its side effects.

KEY INFORMATION FOR DETOXIFICATION

Metabolism and Excretion of Toxins.

Once a substance enters the body, it will undergo the natural processes of metabolism and excretion-elimination. For this case, various systems of the organism work together as part of human's body excretory system.

During metabolism, a chemical substance is converted into one that is less toxic, so to be eliminated easily or faster from the body (Parsons M.E, Ganellin C.R, 2006). Under certain conditions toxins and heavy metals are very difficult to metabolize and then they rise up to toxic concentrations. However, in the human body there are mechanisms for the elimination of substances that threaten the health of the body.

Liver is the primary organ of metabolism. As part of the excretory system, it serves to degrade several substances. This is performed by its enzymes that metabolize the substances found in the blood (Lesch J.E, 2007). It is important that, these mechanisms cannot act on toxins and heavy metals stored in tissues. These toxins and heavy metals must first leave the tissues and reach the blood. After that, toxins and heavy metals, are metabolized into less toxic or more ease to eliminate forms, and they are excreted. The human excretory system consists of five major organs. These are the lymphatic system, the kidneys, the intestine, the lungs and the skin. If any of the five major organ systems are malfunctioning, all the rest are burdened and the elimination of metabolic waste products becomes more difficult. (Dai, N., et al. 2007)

The *lymphatic* system: The lymph collects intracellular wastes and brings them to the blood circulation. Then, they are processed by the liver and filtered by the kidneys. Lymph circulation is dependent on the movement of the limbs and the action of the muscles. Consequently, exercise greatly benefits the lymph. Studies on the function of the lymphatic system shows, the lymph system to be the basic system for detoxification of the body and when it does not function properly, all other relevant systems also are not functioning properly (Aldrich T.B., 1905).

The main burden of excretion is taken by the kidneys and the intestine (along with the bile salts that are excreted from the bile). The *kidneys* are the most sophisticated excretory organs with large capacity for blood filtration, elimination of toxic substances and

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unnecessary body fluids excretion. They are part of the urinary system, which also includes the two ureters, the urinary bladder and the urethra. The main function of the kidneys is to filter the blood and for this reason each kidney is directly connected to a pair of blood vessels. The main metabolic products excreted by the kidneys are water, salts and urea. (Debelle, F.D. , et al. 2008)

The function of the *intestines* is directly related to the elimination of food residues. Mainly they eliminate the digestion waste materials. At the same time they are functioning as an excretory organ for substances excreted in the gut, from bile through bile vessels. When intestinal function is not proper, toxins enter into the blood and the lymph, through the intestinal wall and are deposited to the tissues. Proper bowel function is directly related to the immune system, therefore the intestines are considered to be the "governor" of the immune system.

The function of the *lungs* is related to the removal of carbon dioxide (CO2) produced during cellular respiration. Carbon dioxide diffuses from the cells to the bloodstream and reaches the lungs, where it expels on exhale with a small amount of water vapor. Obviously when a person does not breathe right for years, this will have consequences on a cellular level (Ward J.W., 2007). The lungs are important in eliminating toxins produced in the organism as breathing gases, such as alcohol and some chemicals from cigarette smoke. This is why the breath of smokers has a smell.

The *skin* is involved in the elimination of toxins mainly by sweating. Sweat is a mixture of three metabolic by-products: water, salts and urea, but at concentrations different from those found in the urine. Elimination of toxins can also be done through hair. When toxicosis is intense and the body cannot cope, eruptions appear on the skin. All skin rashes are related to the excretion of body toxins and this is why we need to be very careful in curing them. (Wermut C.G., 2008).

Summarizing: The main responsibility of toxin collection and cell purification belongs to the lymphatic system. The kidneys and the intestine, along with the toxins excreted from the bile, undertake the main burden of excretion. The lungs contribute significantly by breathing, and the skin is mainly involved in detoxification through sweat.

The excretory system plays the most important role in maintaining homeostasis. If the body could not dispose of metabolic waste products, they would soon reach high concentrations that can be life threatening. A healer is important to be able to recognize which symptoms of the patient are related to excretory dysfunction, and not to apply methods of symptoms suppression, as in this case there a general disorder of the organism will be established.

When the body does not detoxify properly, there is a tendency for oxidation, acidity and inflammation.

As oxidation, we can define cell damage caused by increased concentration of free radicals, which can be devastating, with different degrees of severity. These disorders may vary from premature aging to cancer.

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Acidification is the process that tends to lower the pH of the cell, resulting in super acidity in the body. Acidosis of the extracellular fluid is a predisposing factor for the appearance of many functional disorders and if is not treated properly can cause tissue damage.

Inflammation is the body's reaction to any harmful cause. Inflammation is a defensive function of the organism against microorganisms (viruses, bacteria, fungi, parasites, etc.) or mechanical-chemical agents (e.g. injuries, burns, poisoning). When inflammation occurs, chemicals from the white blood cells of the body are released into the blood or tissues in order to protect the body from foreign substances. This chemical's release increases the blood flow to the area of injury or infection and causes redness and increased local tissues heat and swelling. This reaction can stimulate the nerves and causes local pain.

In immune disorders (allergies, autoimmune procedures), a chronic inflammation may occur. Chronic inflammation has been recognized as the substrate of almost every chronic disease.

Plants can benefit us if we put them in our lives in the following ways:

1. We can reduce stress and improve our mood.

2. We can detoxify the body by acting proactively, preventing the development of any pathology.

3. We can help reduce and eliminate symptoms from various organ-state dysfunctions. In such cases, it is essential that the medical practitioner be informed and consulted.

Examples of plants used for improving certain health conditions

(Specific information on each plant is given in TBP project's online encyclopedia)

Plants with anti-inflammatory action: *ALOE VERA, ACHILLEA MILLEFOLIUM, ALLIUM SATIVUM, ANGELICA ARCHANGELICA, CALENDULA OFFICINALIS, CARDUUS MARIANUM, CHAMOMILLA RECUTITA, GENTIANA LUTEA, ECHINACEA, HYPERICUM PERFORATUM, SAMBUCUS NIGRA, TANACETUM PARTHENIUM, TARAXACUM OFFICINALE, URTICA DIOICA, VACCINIUM MYRTILLUS*

Plants with an antioxidant effect: *CHAMOMILLA RECUTITA, MENTA PIPERITA, TILIA EUROPEA, ALLIUM SATIVUM, PISTACIA LENTISCUS, VITIS VINIFERA*

Plants to reduce stress symptoms and improve mood: *ALLIUM SATIVUM, CHAMOMILLA RECUTITA, CRATAEGUS MONOGYNA, HYPERICUM PERFORATUM, HUMULUS LUPULUS, LAVENDULA OFFICINALIS, MELISSA OFFICINALIS, PASSIFLORA INCARNATA, VALERIANA OFFICINALIS,*

Plants used for detoxification: *ALOE VERA, ALLIUM SATIVUM, ARCTIUM LAPPA, CARDUS MARIANUM, CHELIDONIUM MAJUS, CISTUS CRETICUS, CYNARA SCOLYMUS, URTICA DIOICA,*

Plants for improving circulation: *ALLIUM SATIVUM, CRATAEGUS MONOGYNA, HAMAMELIS VIRGINIANA, VACCINIUM MYRTILLUS, VITIS VINIFERA,*

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