

in patent drugs - price controls: administrative or statutory pricing, external reference pricing, rate of return regulation, negotiations and price-volume agreements, direct expenditure controls: payback, direct expenditure controls: price volume agreements, cost-plus pricing; supply side regulation: off patent drugs - tendering for generics pharmaceuticals in primary care, price capping for generics and linking these to the originator price; supply side regulation: reimbursement methods - positive and negative formularies, internal reference pricing, HTA, innovative pricing and reimbursement schemes. Currently, the pharmaceutical R&D is oriented mainly to the treatment of non-communicable diseases like cancer, Hepatitis C, tuberculosis, rare disease, diabetes. In 2014 have been approved on the EU market 30 new active substance (NAS) – from which 13 NAS take an orphan status, 5 - alimentary tract and metabolism, 7 - anti-infective, 11 - anti-cancer and immunomodulatory, 1 – cardiovascular, 1 – nervous system, and 5 – other diseases; on US market 45 NAS, 21 with orphan status, 9 - alimentary tract and metabolism, 7 - anti-infective, 15 - anti-cancer and immunomodulatory, 3 – nervous system, and 11 – other diseases. The collective impact of the Trans Pacific Partnership (TPP) on the pharmaceutical industry will be to grant at least 10 years of additional monopoly to innovators in various ways. This may reduce pressure on innovators for researching new drugs and developing new remedies. Consequently, the society at large will suffer. This would also mean that patients in TPP countries would have to continue to pay higher prices for 10 more years. Those who can't afford these will have to suffer without medicines that could have cured them.

Conclusion: The tension between managing cost and fostering innovation of medicines remain a big problem. There is need for greater cooperation between countries and stakeholders on what constitutes a fair reward for industry innovation while preserving access and sustainability. This should involve better balancing of the value of innovation with equitable, affordable patient access, collaboration among health systems might benefit from including a particular focus on chronic care, specialty medicines and rare diseases. Companies remain conservative in their approach to patents, and some of them have been the subject of settlements or decisions relating to ethical marketing, bribery or corruption standards or competition laws in the last two years.

Key Words: medicines, pharmaceutical industry strategy, pricing.

350. THE ACCUMULATION DYNAMIC OF POLYPHENOLIC COMPOUNDS IN *PHYSALIS ALKEKENGII* L.

A. V. Bili

Scientific advisor: Cojocaru-Toma M.A., Associate Professor, PhD, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. *Physalis* (*Physalis alkekengi*), herbaceous perennial plant, which is composed of a big number of biologically active substances: polyphenols, tannins, bitter substance – physalin, flavonoids, saponins, ethers, steroids, tannins, vitamins: A, C, B1, B2, B6, B12, alkaloids (solanine, scopoletin). Lycopene (carotinoid) substance is giving a vivid coloration to its fruits. *Physalis* edible breeds have been used both in cooking and in medicine. Just a few therapeutic benefits can be detached from a huge variety. Therefore, its antioxidant effect for medicine, is achieved through the presence polyphenolic compounds in the plant. Plant extracts have a marked antimicrobial action. The extract of

the flower cups is used as an anaesthetic and anaplerotic solution. Physalis berries are able to eliminate urates from the body, have diuretic, hemostatic, inflammatory and choleric action. The plant can be used as multi-vitamin product, favorably influencing the immune system. Green fruits are toxic, because of high concentration of alkaloids.

Materials and methods. The aim of the study was to identify biologically active substances - polyphenols, responsible for antioxidant action of this plant, through qualitative and quantitative analysis. Leaves were used as a plant material collected in the center of cultivation of the State University of Medicine and Pharmacy "N. Testimiteanu", in the period of May – September, and dried in accordance with the Pharmacopeia rules.

Discussion results. Direct spectrophotometry was used for the quantitative determination of the amount of the phenolic compounds in this study, based on the measurement of the optical density of colored reaction products resulting from oxidation. Among the existing analytical methods for determining phenols on the basis of oxidation-reduction reaction is the method of Folin – Denis FD, with the use of gallic acid as a standard. The FD method is based on the formation of oxidation products of the phenolic compounds by wolfram acid in an alkaline environment, created by the saturated solution of sodium carbonate. In order to speed up the process of oxidation – restoration the water was heated at 80 °C for 30 minutes (according to G. I. Mechnikova chemical-pharmaceutical magazine, vol. No 4, No 2, 2007).

Conclusion. Polyphenols are active principles, responsible for antioxidant effect with a wide spectrum of use.

The total amount of the polyphenolic compounds, containing in percent in leaves, shows the following accumulation dynamic: 12,77% - May, 13,12% - June, 13,15% - July, 15,05% - August and 13,73% - September. The maximum percentage of the polyphenolic compounds have been determined in August.

Key words: polyphenolic compounds, *Physalis alkekengi* L.

351. COMPARATIVE PHYTOCHEMICAL STUDY OF VEGETABLE DRUGS FROM SP. WITHANIA SOMNIFERA L. (DUNAL) MICROPROPAGATED IN VITRO GROWN IN GREENHOUSE AND OPEN FIELD

Laurita Matveiciuc

Scientific adviser: Calalb Tatiana, PhD, Associate Professor, Chair of pharmacognosy and pharmaceutical botany, *Nicolae Testimiteanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction: *Withania somnifera* L. (Dunal), commonly known as Ashwagandha, is an important medicinal plant that has been used in Ayurvedic and indigenous medicine for over 3,000 years. In view of its varied therapeutic potential, it has also been the subject of considerable modern scientific attention. It was successfully multiplied by biotechnological methods in vitro in Botany Garden of Academy of Science of the Republic of Moldova and acclimatized in climate conditions of Moldova.