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УДК 615.91

**Ya.O. Chernavskih, I.V. Volgina
THE EFFECT OF HOUSEHOLD CHEMICALS ON HUMAN HEALTH**

Department of Foreign Languages
Ural State Medical University
Yekaterinburg, Russian Federation

Контактный e-mail: chernavskihyana@mail.ru

Annotation. This article discusses the consequences that may arise when using household chemicals. Nowadays many things are made of materials produced at chemical plants and factories of artificial materials. We often do not even suspect what huge amount of dangerous toxins there are at our house.

The Keywords: household chemicals, human health.

Household chemicals take the important place in our life. People often don't even suspect what huge amount of dangerous toxins there are at our house. Influence of household chemicals extends to someone who uses it for cleaning of surfaces or washing the dishes and inhales chemical fumes and to everybody who lives in this house. Therefore it is very important to be able to handle it, to determine what household chemicals and their components are the most dangerous for a human body, to know their influence on an organism.

The purpose – to research the content of harmful substances in preparations of household chemicals in the apartment and to reveal their influence on a human body.

Materials and methods of research

Method of analytical chemistry. Interviewing method.

Materials: household chemicals, litmus paper.

Preparations of household chemicals, their structure

The household goods include the chemical nature intended for various household needs.

All harmful substances can be divided into the following groups:

1. Disorders of endocrine glands (they negatively influence course of biological processes and cause neurological, behavioral and reproductive violations);
2. They preserve in the environment and do not decompose during a long period of time
3. Bioaccumulative (collect in our organism and are capable to passing from person to person)

The substances possessing property to destroy other substances are harmful to the person. The most dangerous of them are the sodium hydrochloride, nitrobenzene,

formaldehyde, phosphates and vapors of chlorine.

Influence of household chemicals

Chlorine steam are the reason of diseases of cardiovascular system, developed atherosclerosis, anemia, hypertension, allergic reactions. They destroy proteins, negatively affect the skin and hair, increase the risk of cancer.

Phosphates get into water, contribute to increased production of blue-green seaweed which lead to poisoning. Besides other types of poisoning, toxins of cyan bacteria also intensify development of cancer cells. Pollution of drinking water leads to miscarriage, low weight of newborns, congenital injuries, digestive tract tumors, increase of morbidity and decrease life expectancy.

Surface-active substances (wash away dirt and purify fabric) cause impaired immunity, allergy, the damage to the brain, liver, kidney, lungs. Surfactants are capable of collecting in the organs. And it is promoted by phosphates. They strengthen penetration surfactant through skin and promote accumulation of these substances on fibers of tissues. Even 10-fold rinsing in hot water completely doesn't exempt from chemicals. Woolen, half-woolen and cotton fabrics hold substances most strongly.

Formaldehyde - the strongest carcinogen causes severe irritation of eyes, throats, skin, airways and lungs.

The poured or scattered household preparations can incidentally pollute food, and then through a digestive tract gets to a human body. When chemical substances are stored in the housing evaporation of volatile chemicals or dust in the air and their penetration into the body through the respiratory tract is possible. It especially concerns preparations for cleaning, detergents, paints and some toxic chemicals. At the same time mucous membranes of eyes, nose, nasopharynx can be impaired.

Every day, in average apartment a few liters of chemistry poisoned water is poured into the sewers stands, which then flows into rivers and lakes, from where the water is returned to the apartment. The vicious circle turns out – environment is polluted by the cleaners designed for cleaning.

Results of research and their discussion

Practical researches

Purpose: to find out how many preparations of household chemicals are available in the average apartment.

Method: interviewing.

Respondents: housewives from 35 to 65 y. o.

A survey of the residents of our house was carried out to find out how many types of household chemicals are available in our apartments.

The Respondent was asked the question: "How many types of household chemicals are in your flat and what do you use more often?" They were offered 5 versions of the answer. The results are presented in table 1.

Table 1

Answer options	Positive answers	Percentage ratio
1. from 2 to 5 types	4	7,7%

2. from 5 to 10 types	16	30,8%
3. from 10 до 15 types	27	52%
4. more 15 types	3	5,8%
5. I use only ancient methods of cleaning	2	3,8%

The results of the poll showed that there are from 10 to 15 types of household chemicals at the average apartment, which are for washing up, air fresheners, means against insects, for washing glasses, polishing and cleaning of furniture and floors, disinfectants.

Practical work on definition of availability of carbonic acids as a part of household chemicals

The method of analytical chemistry is a method of practical research of definition of availability of acids and alkalis on the used object by means of the indicator - litmus paper. We apply litmus paper to a cleaned by household chemicals object. Paper changes color, therefore, on a surface there are chemicals which exert impact on health of the person. The results are presented in table 2.

Table 2

Name	Place of Application	Country	Initial Colour of the indicator	Color of the indicator after carrying out experience	the Conclusion
Stanhom e	Universal cleaning means	France	yellow	blue	this solution contains alkalis as the indicator became blue color.
Pril	Means for washing the dishes	Germany	yellow	blue	Means for washing of ware this solution contains alkalis as the indicator became

					blue color.
Bugs – the Premium	Means for cleaning of ceramics	Israel	yellow	Violet	acids and alkalis aren't revealed.
Whitene ss	Laundry bleach	Russia	yellow	Blue, several minutes later the indicator changes color to white, in connection with property of chlorine - to decolour the indicator	alkalis are found, also chlorine ions which have decoloured the indicator are a part.
Amway	Laundry detergent for linen	USA	yellow	Violet	acids and alkalis aren't revealed.

Following the results of the experiment it has become clear that dangerous chemical compounds, such as alkalis and ions of chlorine, are a part of many means of household chemicals, regardless of the price and the producer. In this regard, buyers should pay special attention to the structure written on packing.

Conclusion:

Household chemicals are the absolute leader among the main household allergens causing allergic reactions. They can cause hoarse cough and irritation of skin in any person, and not just in the allergic person.

We have found out in practical part that at the average lodging there are from 10 to 15 types of household chemicals which contain dangerous chemical connections, such as phosphates, alkalis, organic acids and ions of chlorine. Referring to the material given in research work above, we draw the conclusion that the structure of household chemicals should not contain chlorine, surfactants anions (not more than 2-5% are the most aggressive of surface-active substances), phenols and cresols, oil distillers, nitrobenzene, formaldehyde.

The consumers in Russia prefer to buy household chemicals from foreign producers because domestic cleaners don't meet the standards and requirements of users according to the market research. According to the researchers conducted by

Protection department of environment, air in the usual house by 2-5 times more polluted, than outside.

The inscription "ECO" began to appear on many packaging of cleaners. It means that as a part of chemical products there are no ions of chlorine, phosphates and surfactants anions. They are safer for the person and environment. The household chemicals should combine high productivity and environmental friendliness, their influence on human's health should be considered by manufacturers.

Literature:

1. Alikberova. L.Y. Lidin R.A. Chemistry. Handbook for high school and entering college.-Publisher: AST-Press Kniga,2012.PP.234-237.
2. Boris Berezin. Organic chemistry.- Publisher: Yurayt, 2014.PP.475-491.
3. Grigorov M. All of household chemicals.-M. Publisher: Slog, 2012.
4. Vladimir Popkov, Sergey Puzakov. General chemistry.- GEOTAR Media, 2010. PP. 128-130.
5. Vysotskaya M.V. Ekologiya. Grade 9.-Publisher: Teacher, 2007. PP. 79-80.

УДК 615.26:615.451.3:616-003.214

A.A. Karimova¹, G.N. Andrianova¹, O.Yu. Olshvang²

**APPROACH TO THE ANALYSIS OF SOCIO-ECONOMIC FACTORS
IN THE ACTIVITY OF THE STATE-OWNED PHARMACY CHAIN**

¹Department of Management and Economics of Pharmacy

²Department of Foreign Languages

Ural State Medical University

Yekaterinburg, Russian Federation

Контактный e-mail: pharm.usmu@gmail.com

Annotation. In the current situation of increasing competition on the regional pharmaceutical market it is necessary to introduce a holistic approach to the management of the entire set of business processes in the state-owned pharmacy chain, and a particular emphasis should be placed on the patient's needs. Management decisions should be based on the data of the situational analysis of the socio-economic factors influence on the activity of the pharmacy chain. A unified methodology of the organizational and pharmaceutical research of pharmacies does not exist until now. The development of new methods of social and economic, organizational and pharmaceutical research and validation of assessment of statistically significant social and economic factors in pharmacy activity is the topical problem. An integrated approach to the individualization of range of all categories of pharmacies has been developed, allowing to determine the requirement level of different categories of medicines with due consideration of economic characteristics and specific expectations of the target consumers in each segment.