**ECOLOGICAL ASPECTS OF POLLINOSIS. literature review**

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The review is dedicated to the analysis of ecological aspects of pollen allergy (pollinosis). The characteristic of pollen as a natural aerosol component is given. The information related to aeropalinological monitoring and its importance in public health service is presented. The peculiarity of this pathology is its regional variety associated with differences in plant species compositions and pollen periods. The problem of immune response formation to pollen has been studied most profoundly. At that it is known that sensibilization is not always associated with clinical signs. Russian and foreign data about correlation studies between the pollen quantity and the disorder symptom load are discussed. It is shown that there is no decisive answer to the question about threshold pollen counts of certain plants and its impact on different stages of respiratory diseases. The detailed analysis of the correlation between the symptoms and quantitative variables of pollen allergens may provide useful information for risks evaluation of disease exacerbation as well as for tactics elaboration of hypoallergic measures. This is a cross­disciplinary issue involving allergology, aerobiology and ecology. The perspective of further development of this subject in order to obtain more accurate vision of the reasons, mechanisms and patterns of all parts of multifactorial process of pollinosis formation is discussed.

**Key words:** pollen, pollinosis, pollen counts, sensibilization, symptoms, ecology

**THE COMPUTER REGISTER STUDY OF FREQUENCY OF CONGENITAL BRAIN MALFORMATIONS IN CHILDREN FROM ECOLOGICALLY VARIOUS AREAS
OF BRYANSK REGION**

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The relevance of congenital malformations (CM) study is due to this pathology increase in the structure of causes of infant mortality, child morbidity and disability, CM cases increase in children both in Russia and in the world. The analysis of frequency and structure of brain congenital malformations in children, depending on technogenic radiation pollution of the Bryansk region living areas has been given in the article. The aim of this work was to study the generalization peculiarities of brain congenital malformations in different groups of children on the basis of regional CM monitoring in the Bryansk region depending on the anthropogenic pollution degree in the living areas by using the computer register. The study basis was data on the brain congenital malformations prevalence among newborns of Bryansk Region according to the official statistical reporting for the period 1999­2014.

The study result did not stated statistically significant exceedence of the average values of the CM indicators in children from more radiation­contaminated South­Western territories in comparison with the same data of unpolluted areas. However, the maximum value of the average numbers of anencephaly, microcephaly and encephalocele were registered in the most contaminated districts of the region.

**Keywords:** Сongenital malformations, teratogenic effect, monitoring, radioactive contamination

**THE UROPATHOGENS STRUCTURE AND PREVALENCE IN THE URINARY TRUCT INFECTION IN CHILDREN**

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The purpose was to monitor the bacteriological urine studies in children with urinary tract infection (UTI) in departments of multidisciplinary hospital. 1 838 results of bacteriological examinations of urine samples of children with urinary tract infection were analyzed for 7 years (2007­2013). The obtained data were processed using the methods of parametric analysis. The urine microbial spectrum differed between ambulatory patients and the patients hospitalized in specialized departments, and it also depended on department profile and patient’s age. The most frequent uropathogen was E. coli (33,3 ± 7,5) ­ (65,0 ± 7,5) %. But, a decreasing tendency of E. coli importance in the urinary tract infection has been observed. The leading role in children’s UTI etiology in various departments of multidisciplinary hospital also plays Enterococcus faecalis, which is the second most common uropathogen in hospitalized patients with UTI and has paramount importance in the development of UTI in newborns ­ to (75,0 ± 6,8) %.

**Keywords:** urinary tract infection, children, newborns, uropathogen

**ESTIMATE OF EFFICIENCY OF PSYCHOSOCIAL TECHNOLOGIES IN THE WORK
WITH PREGNANT WOMEN STUDYING AT THE UNIVERSITY**

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Psychosocial technology is a set of interrelated actions to provide social support and primary psychological assistance aimed at increasing the value of family and motherhood in the minds of pregnant women, promotional moral education of future mothers, and promotion of mental and physical health. The purpose of the psychosocial approach is to maintain a balance between the intersystem relations influence on the life and inner mental life of a person. The paper presents test results of psychological state correction of pregnant women group, during training at the university using psychosocial technology. To study the psychological characteristics of pregnant women and assess the effectiveness of remedial work techniques aimed at studying of women’s psychological and emotional state and their experiences of pregnancy style were used. Primary diagnosis of pregnant women according to the methods of research, allowed us to determine the following: 50 % of women did not plan their pregnancy in the period of study; in 70 % pregnancy was unexpected or unplanned; 35 % of pregnant women were planning to terminate a pregnancy; 25 % of parents were against their daughter’s pregnancy; 59 % did not have the skills of care for the baby; 25 % planned to take delivery after a sabbatical, and later continue their education at the university; 17 % were married or cohabited with her husband ­ student. The follow­up study was carried out at the end of rehabilitative training with pregnant women. It has been found that the use of psychosocial technology in work with a pregnant woman led to stabilization of the general emotional background and allowed to focus on the child­bearing and prepare for childbirth productively. Visiting remedial classes, pregnant women received psychosocial support, understanding and additional knowledge.

**Keywords:** pregnant women, psychological status, psychosocial technology, psychosocial balance, correction

**DETERMINANTS OF SMOKING AND DESIRE TO QUIT
IN ALMATY, KAZAKHSTAN**

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We studied the prevalence and determinants of smoking and desire to stop smoking in a cross­sectional study among 1174 randomly selected adults aged 45+ years in Almaty, Kazakhstan. Associations between smoking and its correlates were studied by multivariable Poisson regression. Prevalence ratios (PR) with 95 % confidence intervals (CI) were calculated. Among current smokers we also studied factors associated with their desire to quit. Altogether, 40.7 % of men were current smokers and 63.1 % of them desired to stop smoking. The corresponding numbers for women were 10.0 % and 72.1 %. Male gender (PR = 4.14; 95 % CI: 3.18­5.40), Russian ethnicity (PR = 1.56; 95 % CI: 1.23­1.97), secondary or less education (PR = 1.37; 95 % CI: 1.09­1.73) and having satisfactory or worse psychological family climate (PR = 1.84; 95 % CI: 1.26­2.67) were positively associated with smoking. Men who reported poor (PR = 1.24; 95 % CI: 1.11­1.38) or satisfactory (PR = 1.17; 95 % CI: 1.08­1.27) health, had very good psychological family climate (PR = 1.20; 95 % CI: 1.03­1.41), and smoked 10­19 cigarettes a day (PR = 1.29; 95 % CI: 1.17­1.41) were more likely to report a desire to quit smoking. Number of daily smoked cigarettes, self­rated health, and psychological family climate were associated with the desire to quit.

**Key words:** smoking, determinants, quitting, Almaty, Kazakhstan, Central Asia

**PROVISION OF DIFFERENT AGE­GROUP POPULATIONS OF ARKHANGELSK CITY WITH VITAMIN D**

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Vitamin D deficit is a worldwide recognized health problem due to its role in pathogenesis and progression of different diseases. The study of provision different age­group populations living in the Arctic and subarctic regions with vitamin D is of special interest because the risk of vitamin D deficit is stipulated by low insolation level is worsen by extreme climatic and geographic factors. Objective: to estimate provision of Arkhangelsk city age­group populations with vitamin D. Methods: 25­OH vitamin D blood serum concentration was estimated in a cross­sectional (instant) uncontrolled study carried out among Arkhangelsk city citizens of both sexes in during spring­autumn period between 2013 and 2014. Moderate deficit (deficiency) was estimated at the level of 25 (OH) D within the range of 20 ­ 30 ng/ml, deficit within the range of 10 ­ 19 ng/ml and severe deficit less than 10 ng/ml respectively. Results: children under the age of 3 (n = 155), schoolchildren at the age of 6 ­ 7 (n = 80), adolescents at the age of 13 ­ 15 (n = 367), university students at the age of 18 ­ 22 (n = 260), adults at the age of 24 ­ 60 (n = 85) were included in the study. Vitamin D deficiency was found in 38 (25 %), 16 (20 %), 71 (19 %), 36 (32 %) and 35 (41 %) people. Deficit was found in 35 (23 %), 39 (49 %), 249 (66 %), 103 (40 %) and 25 (29 %) people and severe deficit was found in 12 (8 %), 18 (22 %), 52 (14 %), 22 (8 %) and 3 (4 %) of people. Conclusion: high frequency of vitamin D deficit of various intensity was revealed in all age­group populations living in Arkhangelsk city. Study results indicate the necessity to develop and implement target regional and all­Russian prevention programmes as well as early diagnosis and correction of vitamin D deficit and deficit­related disorders in the Russian Federation.

**Keywords:** vitamin D, vitamin D deficiency and vitamin D deficit, children of early age, schoolchildren, adolescents, adults

**ELEMENTAL STATUS OF STUDENTS OF DIFFERENT SOCIAL GROUPS**

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The study of some features of the ultimate hair composition of youth­students of different social groups was been carried out (students from couple families and orphan students). Evaluation of the ultimate hair composition was carried out by inductive coupled plasma­atomic emission spectroscopy. The samples analysis was carried out at 25 chemical elements. Excessive content of iron and lithium and also cobalt and selenium deficiency were revealed in all students compared with the average Russian parameters. Excessive content of magnesium and zinc were peculiar to orphan­students. Some differences between the groups for both the individual elements and elements ratios have been found. The sodium (1.7 times; р=0,006), potassium (3.2 times; р=0,019) and aluminum (1.4 times; р=0,006) content were significantly higher in the hair of couple­family students but the content of selenium (р=0,050) was lower. As a result of higher potassium content in this group, content of Ca/K and Na/K (5.4 and 1.4 times respectively) was significantly lower. The correlation analysis showed a close relationship between the content of calcium and magnesium, as well as iron and manganese in hair of students of both groups. The study results can be applied in the development of modern non­invasive diagnostic techniques.

**Keywords:** adaptation, orphan­students, elemental status

**INDICES OF HUMORAL AND CELLULAR COMPONENTS OF IMMUNE SYSTEM OF ADULT NONRESIDENTS OF KHANTY­MANSIYSK, SUFFERING FROM METABOLIC SYNDROME**

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The aim of the study was to reveal peculiarities of immune reactivity in adults nonresidents of Khanty­Mansiysk (Khanty­Mansiysk Autonomous Area) suffering from metabolic syndrome. 126 adult nonresidents of the city were surveyed: 72 patients with a metabolic syndrome (MS) and 54 without MS (control group). Average age of surveyed was 40,5 ± 4,2 years old. Indices of humoral and cellular components of immune system were revealed. As a result, patients with MS had statistically significant excess of indices both humoral (circulating immune complexes large, С­­reactive protein ­ р < 0,001, complement component C4 ­ р = 0,002) and cellular (suppressor cell, T­NK lymphocytes ­ р < 0,001) components of immune system in comparison with the control group. Excess of suppressor cell (88,9 % patients with MS, 72,2 % without MS) and T­NK lymphocytes (54,2 % patients with MS, 24,1 % without MS) concentration was revealed in large majority of the surveyed. As can be seen from above changes were registered in humoral and cellular components of immune system of surveyed persons which indicated tension of the immune system functioning in conditions of the Northern region.

**Keywords:** Northern region, metabolic syndrome, humoral component of immune system, cellular component of immune system.

**QUALITATIVE RESEARCH IN MEDICINE AND PUBLIC HEALTH**

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In this paper we present definition, classification and main characteristics of qualitative research as well as its advantages and disadvantages. We also compare the main features of qualitative and quantitative study designs. Examples are given to demonstrate practical steps in qualitative inquiry to demonstrate that qualitative research can sufficiently contribute to evidence generation in medicine and public health complementing quantitative research with answers on questions “why” and “how”, which cannot be answered by quantitative research. The paper presents basic information on qualitative studies and does not substitute specialized literature.

**Key words:** Qualitative research, classification, peculiarities, advantages, disadvantages

**BOOK REVIEW «РAVEL SIDOROV “MENTAL ЕPIDEMICS: FROM MOBBING TO TERRORISM”»**