

SUMMARIZED CHARACTERISTICS OF SOCIAL STATUS OF SPECIALISTS WHO WORK AT THE SANITARIAN-AND-EPIDEMIOLOGIC SERVICES

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For studying of mode and working conditions of experts of sanitary-and-epidemiologic services we surveyed 1152 employees of departments and administration of the State sanitary-and-epidemiologic supervision (SSES) and the centers of sanitary-and-epidemiologic examination (SEE), 244 of them from Almaty, 391 - from Almaty area, 116 - from Ақтобе, 171 - from Taraz, 100- from Ust-Kamenogorsk, and 130 employees of a railway transportation SES (103) and air SES (27). Samples are represented by various groups, including head physicians and managing departments, branches SSES, directors of CSEE and their assistants, main, leading experts and experts SSEE, doctors - laboratorians and laboratorians CSEE.

We conducted analysis of housing conditions of respondents and revealed that 74,2% of them are holders of the private dwelling. Other 25,8% of respondents do not have regular dwelling.

Only half of specialists consider their housing as comfortable (53,7%), 26,7% partly comfortable, and 19,5% live in uncomfortable conditions. One of the main characteristics of living conditions they consider availability of public utilities. Only half of respondents have an access to hot water, to central heating – 58,7%. One of the reasons that majority of respondents live in private houses without access to public utilities. Also as one of indicators we considered availability of domestic equipment. The most common domestic equipment were TVset and fridge.

Another sensitive question of our health care was question about size of salary. The mean salary is –29280 tenge. At the same time specialist of sanitarian and epidemiological service are governmental workers and they have no right to work in other places, excluding research and teaching. We asked them regarding other sources of income, and 95% of them answered “No”, only 5% indicated that they work as teachers at the medical and nursing schools. Additional salary varied from 10000 to 30000 tenge. Survey showed that the majority of respondents considered size of salary as a low. Only 13,5% thought that salary is relevant to their qualification, and only 2,4% answered that the salary was on the satisfied level. Approximately 405 of respondents indicated that they have permanent scarce of money, only 0,9% were happy with their incomes. Whether on a question « Do you feel legal and social security on the part of the State? » 96,4 % of respondents have answered, that do not feel security, 52,4 % from them of not in a full volume, and 44,0 % do not feel at all, and only 3,6 % were satisfied. Only 5,5 % of families with small children receive welfare payments.

Experts of sanitary-and-epidemiologic service in the proof of an inattention of the state in relation to them have resulted the following reasons: low wages (34,1 %), an insufficient level of conditions for rest and treatments (15,2 %), lack of pension (11,6 %), professional - legal vulnerability (10,6 %), absence of privileges (8,5 %), unresolved household problems (8,3 %), etc. The basic place in structure of monthly average spends are occupied with expenses for food stuffs, clothes, footwear and household goods, the rent and municipal services. Catering services manages to doctors much more expensive. Approximately the fifth part of monetary incomes of families is spent for purchase of clothes and household goods, everyone the fourth - on monthly

payment of municipal services and the rent. The attention that experts of service appear more economical in an expenditure of means for leisure and rest pays to itself.

Thus, conditions of life and a financial position of experts of sanitary-and-epidemiologic service at the moment of research were no more than satisfactory, that demands from heads of bodies of health care to increase attention to questions of social support of workers of the given sphere.

Problems of prevention of nosocomial infections in health organizations

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The problem of morbidity with nosocomial infections is still remain as the most actual and intractable problem in modern medicine, in the worldwide, as well as in our country. Acuteness and importance of this issue is explained by high level of morbidity with nosocomial infections and breadth of their prevalence, especially during the last 20-30 years.

Currently there is a whole set of factors, influencing the increase of the frequency of hospital infections. Hospital infections now are caused mainly by opportunistic microbes that complicate significantly their prevention, since usual human microorganisms are becoming pathogenic.

The prevailing meaning now has pyogenic septic infections, which are composing up to 65-75% from the total amount of nosocomial infections. Most frequently PSI are being registered in patients of surgical profile, especially in the departments of urgent and abdominal surgery, traumatology, and urology. The other big group is composed by intestinal infections (5-15%), among which salmonellosis is prevailing. On the third place a group of infections could be noted with prevailing parenteral way of transmission (hepatitis B,C, cytomegalovirus and HIV-infection, and others), which are weighting as 3-5%. There is also one more group of hospital infections, which is presented by classical infections under the condition of their spread in hospital (measles, rubella, паротит, flu), which are being met significantly rarely, since the population is getting a specific prevention from these diseases.

Hospital infections are complicating the conduction of treatment-diagnostic process, are decreasing its effectiveness, prolonging the duration of hospitalization in average for 6-8 days, leading to additional morbidity, increasing lethality, and are followed by increase of economical expenses, and in general by significant social damage.

In republics of post soviet space the data of the official statistics practically everywhere are not reflecting the true situation related to detection and registration of hospital infections. In our country during the period of 2003-2005 the summed level of morbidity by hospital infections was only 0,03-0,04% of hospitalized people, while in the US, where antiepidemic regimen in the hospitals is of much higher level, National center on diseases control consider the acceptable level of nosocomial infections to be up to 5%.

Unacceptably low level of detection and registration of hospital infections in the countries of the post soviet space could be explained by the fact, that earlier during a long period of time there was existing a policy of regulation measures of control by hospital infections, based on the dictate of external organizations (sanitary-epidemiological service), collection of data for comparison with external standards, conduction of inspections, and accordingly punishments for non compliance to sanitary norms and rules. Measures on prevention and control of nosocomial infections in hospitals were brought to human and material resources exhausting microbiological studies of air environment and wash-outs from the environmental subjects in medical organization. Detection of pathogenic microflora was accompanied by application of penal treatments in the form of fines and so on, forcing the personnel to hide the cases of hospital infections and to consider them as complications. In the developed countries such a practice was stopped beginning from 50-es of the 20th century because of their irrationality and ineffectiveness both from clinical, as well as economical points of view.

All above mentioned is justifying the acuteness of the problem and difficulty of the decision of the questions of effective prevention and control of hospital infections, as it is known that to develop a complex of preventive and anti epidemics measures is possible only based on the knowledge of the true levels of morbidity, analysis of the caused of their appearance and ways of spread of nosocomial infections.

Modern medical-organizational approaches to optimization of the prevention process of nosocomial infections.

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Priority place in the concept of hospital infections prevention belongs to the system of infectious control, providing supervision for disease morbidity and factors, determining it, to the improvement of laboratory diagnosis and monitoring of agents, quality and effectiveness of conducted activities.

The inculcation of the system of informational control is based on the strategy of improvement of the quality of medical care and includes in itself: determining goals, objectives and methods of their achievement. The success of the program of infectious control depends on interaction and agreement between administration, physicians, epidemiologists and nurses. Therefore, special preparation for realization of infectious control is required not only for specialists, engaged in this system (hospital epidemiologists and nurses on infectious control), but also the whole personnel of the medical organization. Perfection of methods and integrity of approaches to education of medical personnel are acknowledged as one of the leading problems of hospital infections' prevention. It is extremely important, that health managers are openly supporting the program of infectious control and understand adequately its goals and objectives.

The high level of hospital infections should not be considered by administration as a ground for punishment of the department or separate staff. In this case it is necessary to look for the cause in the system of organization of infectious control and to put necessary corrections. It should be noted, that physician-epidemiologist and clinician are peer partners in the issue of prevention of nosocomial infections, at that epidemiological observation can not only to facilitate the detection of nosocomial infections, but also prevention of over diagnosing hospital infection, which also take place alongside with attempts to hide the cases of hospital infections.

The problem of prevention of hospital infection is requiring the decision of the number of not only practical, but also scientific, organizational objectives. So, the most important problem remains to be the resistance of agents to antibiotics, which is not able to be solved only by the means of developing new medicines. Reliable scientific researches are required, reasonable governmental policy in the field of production and application of antibiotics. The economical reasoning is obvious: at the absence of precise data on antibiotic resistance it is not possible to provide the acceptance of proper decisions during antibiotics' purchasing, which is increasing the probability of application of more expensive antibiotics, and also possible ineffectiveness of treatment, which leads in its turn to prolongation of the duration of hospitalization and accordingly to more expensive treatments.

One of the organizational approaches to the solution of the problem of antibiotic resistance – is to inculcate free of charge program of WHOMET, which was developed by WHO. With the help of this program it is possible to provide generation of reports about separate patients, to create data basis by all revealed microorganisms, to control resistance and determine the tactics of antibiotic treatment. The given program – is principally new technological level of improvement of the quality of medical care, by the way of improvement of prevention and treatment of infectious diseases.

Scientific evidence is necessary also to justify the effective standards and algorithms of medical care, which are presenting corner stone of effective program on infectious control. Only recently in the world medical community the question of the necessity of standards was disputable. Today the need in this work is well known. More over, standards are necessary to develop for each medical organization, since they have their own specific conditions, risks, different level of established posts' resources, material-technical base, and modern medical equipment.

ABOUT ISSUE OF IMPROVEMENT OF MEDICAL AND SOCIAL CARE FOR SENIOR PEOPLE IN PHC SETTINGS

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Sustain improvement of social standards and quality of life of the population in the country are determined by the President of the Republic of Kazakhstan N.A.Nazarbaev as one of priority directions of realization of tasks on entrance of the country in number of the most 50 competitive states of the world. The activity directed on preventive maintenance of presentation and increase of the active and healthy period of life, the most direct image will influence achievement of the specified purposes.

Process of ageing of the population - the phenomenon which is observed now in many countries. The estimation of modern age structure of the population in Kazakhstan testifies that the country also has stepped over a threshold of ageing of the population (percentage of senior people - over 7,7 %), that testifies to occurrence of negative tendencies in age balance of the population.

As is known, patients of the senior age group suffer from a variety of serious chronic diseases that attracts essential increase in the State expenditure. The level of incidence of persons of senile age almost in 6 times is higher, than at young. In senior age suffer chronic diseases, deterioration of hearing, sight, presence of orthopedic problems is more often. On the average on patients of senile age in Kazakhstan it is necessary from 2 up to 4 diseases, cost of their treatment in 1,5-1,7 times is higher than cost of treatment of young people. In presentation of the person, first of all, result the diseases widely distributed in second half of a life: an atherosclerosis, ischemic illness of heart, an arterial hypertension, a diabetes, a metabolic syndrome. Each third patient of senior age in Kazakhstan is hospitalized owing to chronic disease.

Now the existing system of the organization of medical care, especially, at a level of a PHC, practically does not take into account feature of rendering of medical care to persons of senior age that demands realization of purposeful measures on creation of system of the geriatric help.

In this connection it is necessary to develop the documents regulating activity of gerontologic and palliative service in the Republic of Kazakhstan. Probably, to develop the national program «Healthy longevity of the Republic of Kazakhstan». For preparation of experts for this service it is necessary to develop curriculums for improvement of professional skill of experts on questions of gerontology and the palliative help for doctors and the average personnel. In connection with introduction of Uniform national system of health care it is necessary to develop medical-economic reports, according to modern methods of diagnostics, treatment and rehabilitation of these contingents adapted to application for elderly patients and persons with attributes of presentation.

For the decision of these problems it is necessary to found uniform coordinating herontologic center uniting efforts of various services in the field of gerontology, geriatrics and palliative help.

Organization of palliative care in the Republic of Kazakhstan

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Ageing process leads population to changes in the structure of incidence and mortality. The increasing number of people dies from chronic diseases of heart, cerebral vessels, illnesses of respiratory tract and cancer. According to forecasts, in the majority of the countries death rate

from cancer will grow and by 2020 this pathology will enter the five of principal causes of fatality, and by the moment of statement of the oncological diagnosis the majority of patients will be incurable.

The program of development of palliative treatment through creation of the specialized organizations - hospices - includes the social help, advisory service, application hospital replacement technologies, the hospital care, support of relatives after death of the patient.

In Kazakhstan the first hospice with 40 beds was organized in June, 1999 in the city of Almaty under the initiative of city department of health care. In due course the hospice extended, geriatric branches have opened. Now hospices operate in six cities of the republic: Almaty, Pavlodar, Karaganda, Ust -Kamenogorsk, Semipalatinsk and Kostanai. And there contain not only oncological patients, but also who needs in care.

Hospices in Kazakhstan in many respects differ from the similar medical organizations in the economically developed countries. They are financed by the state while in many countries up to 80 % of the budget of hospices consist of charitable payments, donations of private persons and companies, means of the insurance companies, contributions of the state and non-governmental organizations and religious funds.

In spite of the fact that hospices in the country function during long time, there is a number of problems constraining their development according to growth of needs of the population in palliative care. It is possible to attribute absence of resources to these problems for creation of network and services of the palliative care, absence and imperfection of working normative and methodical base, medical and economical reports, systems of training of social workers, volunteers and improvements of professional skill of medical workers.

Absence of sufficient knowledge of public on questions of the palliative care leads to low level of awareness and is a reason of low medical activity and literacy not only among patients and their rest, but also among non-governmental organizations in realization of tasks of the palliative care.

The problems of conduction of the procedure of self assessment for the compliance to accreditation standards in medical organizations of the service on AIDS prevention and control (on the experience of the GE “Kostanay regional center on AIDS prevention and control”

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According to the Order of the MH RK № 103 «About statement of accreditation standards for medical organizations» from February, 26th, 2009, there were approved a standards

for accreditation of medical organizations, rendering consulting-diagnostic and hospital care in the Republic of Kazakhstan. Based on the given order GE “Department of the Committee on control in the field of medical services rendering” in accordance with the Management of health care of the city administration of Kostanay region starting from august till October of 2009 it has conducted the accreditation of medical organizations in the region.

GE “Kostanay regional center on AIDS prevention and control” was not included into the list of organization, which should be accredited. Nonetheless, the service of quality management of the regional AIDS center has conducted a self assessment of the compliance to accreditation standards.

Because of the absence of accreditation standards for AIDS centers, there were used **standards of accreditation for medical organizations, rendering consulting-diagnostic care in the RK** (appendix 1, to the order № 103 of the Minister of health of the RK from 26th of February, 2009).

During the conduction of self assessment there was revealed a number of problems, complicating the objective evaluation of the level of compliance to the approved standards of medical care.

Conclusions: One of the priority directions of the development of health care system in Kazakhstan – is to provide the quality of medical care by the means of introduction and provision of resources’ standards (buildings, equipment, personnel), process standards (clinical guidelines of diagnosing and treatment), and result’s standards (achieved indicators of the activities).

The experience of the conduction of self assessment for compliance to standards of accreditation has shown, that for inculcation of standards in the service on AIDS prevention and control, it is necessary to:

- provide a legal component of the orders of the MH RK: № 386 “About the structure of established posts of the centers on AIDS prevention and control” from 17th of April, 2002, and №150 “Regular protocols (standards) of diagnosis, treatment and rendering medical care in HIV-infection and AIDS” from 12.02.2004.

- develop projects of typical buildings of AIDS centers considering the specifics of the activity and compliance to sanitary-epidemiological requirements for the structure, planning, composition and square of the buildings.

- decide the question on provision of buildings and rooms by reliable measures of security by including AIDS centers into the list of “extremely important governmental objects, requiring governmental protection”, p.7, section 3 of the Decree of the Government of the Republic of Kazakhstan, from 04.09.2003, №901 “Some questions of security provision of the objects, under the governmental protection”;

- develop integrated requirements (standards) for laboratories of AIDS centers.

SPECIFICITY OF MORBIDITY WITH TEMPORAL DISABILITY IN WORKERS OF THE UNIT ON PRODUCTION OF HIGH-CAPACITY TANTALUM DUSTS

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Tantalum production in the East Kazakhstan region, which is a part of Ulbin metallurgic plant (UMP) – is the only one in the CIS and one of the biggest in the world, fitted with powerful modern equipment. UMP was ranked by RIR company as the fourth in the world by the score of supplies of tantalum production.

Key competency of tantalum manufacturing at the UMP is the output of high-purity metal tantalum (99.995% Ta). Introduction of the innovative technology provided the basis for creation of the unit on production of high-capacity tantalum dusts at UMP. Implementation of the new technologies was followed by the change of occupational conditions, which were reflected on health status of the workers of the modern tantalum production.

One of the criteria of professional risk on health indicators is the level of morbidity with temporal disability by all types of nosologies (per 100 workers). Therefore we have analyzed the level and structure of morbidity with temporal disability (MTD) in workers of the innovative unit on production of high-capacity tantalum dusts at UMP.

Study methods. Analysis of the morbidity with temporal disability was carried out for the period of 2007-2008 in workers of the main professions of the unit on production of high-capacity tantalum dusts at the Ulbin metallurgic plant according to the methodic, proposed by Dogle N.V. and Yurkevich A.Y. There was conducted a print-out of the medical certificates, and development of morbidity with temporal disability in accordance with International classification of diseases of the tenth revision.

Study results. The level and structure of morbidity with temporal disability in the workers of the unit on production of high-capacity tantalum dusts has its own peculiarities and specificity, depending on the conditions and character of labour processes of the given unit, therefore, it is necessary to consider specific characteristics of the innovative unit during the development of the preventive actions, and the main efforts should be directed on the correction of emotional tension in workers of the unit on production of high-capacity tantalum dusts at UMP.

Factors influencing the duration of postoperative treatment of patients with valve heart diseases.

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Resume: There were 1092 adult patients (over 18 years old, mean age was 52.11 ± 11.5 years) included in retrospective study which in 2009 were operated on mitral valve in

combination with other operations or without them (coronary shunting, interventions on ascending aorta) during one hospitalization. Fifteen parameters were included in the analysis. General duration of treatment in patients was 15.4 ± 9.3 days, duration of treatment in reanimation and intensive therapy department was 3.2 ± 5.8 days and duration of treatment in clinical department after transference from reanimation and intensive therapy department was 12.2 ± 7.3 days.

General duration of treatment, duration of treatment in reanimation and intensive therapy department is higher in patients of age 60 and over years old with such accompanying diseases as diabetes, arterial hypertension, myocardium attack, and acute disorder of brain blood circulation in the anamnesis, and in patients with infectious endocarditis. The certain association between duration of treatment and duration of artificial blood circulation was revealed. At carrying out of the multifactorial analysis the most significant factors appeared such as age, diabetes, acute disorder of brain blood circulation in the anamnesis, myocardium attack in the anamnesis, parameter EuroSCORE, time of artificial blood circulation and operative interventions on mitral valve.

Duration of treatment of patients in the different countries and with different types of valve defects varies. Probably, differences in duration of treatment between countries are caused by system of medical aid organization, geographical affinity of medical institution in which operations carried out to the place of patient residing, conditions of his residing, and sufficiency of medical supervision on the residence.

The determination coefficient of prognosis regression model of treatment duration in reanimation and intensive therapy department equals 9 % that testifies the necessity of further accumulation of the information.

***Key words:** duration of treatment, component of operation.*

PROBLEMS OF CHILDREN WITH DISABILITIES

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One of the most important indicators of population health is the primary indicator of children disability. It reflects the state health of the republic, the social protection of the child population, the level of society welfare.

Every year in the Republic of Kazakhstan is born more than 300 thousands children and over 1,200 (intensity indicator - 4 in 1000) have some pathology that determines the health state of these children in later years and the impact on their future mental and physical development. Over 4 thousand children are born each year with various abnormalities.

The structure of childhood disability is dominated by the neuro-psychiatric disorders and congenital anomalies (72%), a leader among which are diseases of the nervous system (34%), 20% of them - children with cerebral palsy (CP).

During the period from 2001 till 2009 years in Kazakhstan 63 000 children (an annual average 7000) received a category with disabilities for the first time. According to WHO, by 2015 is expected to increase PP CNS by 11%, it is 1,6 times increase in the pathology of physical development.

The largest share (46,4%) among all children with disabilities are children aged 7-14 years. The highest infant disability observed in SKO 10.2 per 1000 child population, Almaty - 8,3, Karaganda - 11,3, East Kazakhstan - 10,6, Zhambyl - 10,4. And in January 2009 in South Kazakhstan and Zhambyl regions this figure increased by 0,9 and 1,2 respectively.

The main reasons for the increase in child disability: a low coverage of sanatorium and rehabilitation treatment of children with chronic pathology; weak material-technical base of health facilities, shortage of pediatricians and narrow specialists (neonatologists, child neurologists, rehabilitators, etc.), especially in rural areas; poorly developed network of rehabilitation and rehabilitation in the regions; imperfect system of training and retraining of medical rehabilitation.

Rehabilitative care for children in Kazakhstan has 27 points with different departments. Some of these, 13 (48,1%) - managed health care, and only 6 (22,2%) have the status of the rehabilitation center, 5 - only rehabilitation wards at hospitals or clinics, and 3 center - somatic, heals children with chronic pathology of the internal bodies.

Despite all the efforts made by the State to facilitate life for children with disabilities, there are still problems that remain unresolved social problems that impede the socialization of persons with disabilities, especially when it comes to children with disabilities: public transportation, residential houses, office buildings are not adapted to humans with disabilities; it is not enough traffic lights with the sound, not designed sidewalks and subways, are not adapted public toilets, etc.; social programs for disabled children are only limited by the issuance of social benefits, it is not enough social workers, which would monitor the living conditions of disabled, the lack of integration of disabled children in mainstream schools; also it is not enough factories for the essential accessories production for disabled children (e.g. orthotic production), and equipment for movement is not produced, it is not enough non-governmental organizations, that are responsive to the interests of persons with disabilities in the design of legislation and government decisions.

To achieve the goal of rehabilitation successfully: the most complete health recovery and return to the active life of a child with a disability is necessary to solve medical, social, psychosocial and educational problems not only for children with disabilities, but their parents as well as active involvement of the whole family into rehabilitation process. In connection with this we offer:

- improved diagnostic aid and increasing the availability of rehabilitation for children from rural areas;
- approval of the Health Ministry of Kazakhstan established standards for rehabilitation centers;
- unification of the records in the medical history, medical (ambulance) card and excerpts of rehabilitation with the obligatory indication of the specific parameters that reflect the patient's condition and the effectiveness of rehabilitation for the comparative assessment of the rehabilitation institutions;
- equipping the centers with modern rehabilitation facilities;
- opening departments (course) for training and retraining specialists rehabilitators;
- creation of regional rehabilitation centers day care for children with disabilities in the health care system.

HEALTH STATUS OF CHILDREN AGED 0-3 YEARS IN ENVIRONMENTALLY UNFREINDLY SUB-ARAL AREA

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Key words: children's health, sub-Aral area, incidence by appealability, real chemical load, priority pollutants

Background. This piece of work is devoted to study of children's health aged 0-3 years old in conditions of real load by chemical factors in sub-Aral area. From epidemiological point of view we considered level and structure of incidence among children of these age group.

Materials, methods and organization of study. Epidemiological evaluation of pathology was conducted with use of accumulated data on children's incidence for 1995-2005 from primary report documents of family ambulatories in Kazalinsky district, Kyzylorda oblast, and also published statistical data in annuals of MoH RK (control group). We copied data on incidence from 1579 cards (form 112/u) of children's development. For coding purposes there was used ICD-10. For analysis we used statistical method.

Results

Analysis revealed that leading cause of children's incidence were respiratory diseases (53,77%±10,07%)with frequency 1108 cases per 1000 children. Second and third causes were endocrine diseases, dyspepsia and metabolic diseases, and blood diseases (11,72%±3,16% and 10,26±2,52%) with frequency 241 and 211 cases per 1000 children relatively.

Gastrointestinal diseases, skin diseases, perinatal conditions, and infection/parasitic diseases took 4th - 7th places in the structure of incidence (16,41%) and with frequency 4-44 cases per 1000 children.

Other 8th-13th places (7,86%) were distributed between diseases of nervous system, musculoskeletal system, urinary tract, eye diseases, congenital malformations, cancer, and also psychiatric disorders with incidence from 8 to 43 cases per 1000 children.

Findings

In the structure of incidence by appealability among children aged 0-3 years old in Kazalinsky district of Kyzylorda oblast main nosologic forms were diseases of respiratory tract, endocrine diseases, dyspepsia and metabolic diseases, and blood diseases, gastrointestinal diseases, skin diseases with total specific gravity of 87% from total level of incidence and varying from 86 to 1108 cases to 1000 children. Specific gravity of such widely spread nosologic forms as URI, chronic bronchitis, IDA, hypotrophy and paratrophy, gastrointestinal diseases, colitis, diarrhea, and rachitis was . 80% from total number of incidence cases with frequency from 48 to 426 cases per 1000 children.

HEALTH STATUS OF CHILDREN AGED 4-5 YEARS IN ENVIRONMENTALLY UNFREINDLY SUB-ARAL AREA

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Key words: children's health, sub-Aral area, incidence by appealability, real chemical load, priority pollutants

Background. This piece of work is devoted to study of children's health aged 4-5 years old in conditions of real load by chemical factors in sub-Aral area. From epidemiological point of view we considered level and structure of incidence among children of these age group.

Materials, methods and organization of study. Epidemiological evaluation of pathology was conducted with use of accumulated data on children's incidence for 1995-2005 from primary report documents of family ambulatories in Kazalinsky district, Kyzylorda oblast, and also published statistical data in annuals of MoH RK (control group). We copied data on incidence from 316 cards (form 112/u) of children's development. For coding purposes there was used ICD-10. For analysis we used statistical method.

Results

Analysis revealed that leading cause of children's incidence were respiratory diseases (41,14%±3,51%) with frequency 169 cases per 1000 children. Second and third causes were blood diseases and infection/parasitic diseases (34,81%±1,87% and 12,66±2,76%) with frequency 143 and 52 cases per 1000 children relatively.

Diseases of urinary tract and psychiatric disorders took 4th and 5th places in the structure of of incidence (5,38%) and with frequency 9-13 cases per 1000 children.

Other 6th-8th places (6,02%) were distributed between diseases of gastrointestinal tract, nervous system, skin diseases with incidence from 5 to 8 cases per 1000 children.

Findings

In the structure of incidence by appealability among children aged 4-5 years old in Kazalinsky district of Kyzylorda oblast main nosologic forms were diseases of respiratory tract, blood diseases, infection/parasitic diseases, with total specific gravity of 89% from total level of incidence and varying from 52 to 169 cases to 1000 children. Specific gravity of such widely spread nosologic forms as IDA, URI, chronic bronchitis, conversion of tubercular tests, viral hepatitis and arrested psycho-physical development was . 92% from total number of incidence cases with frequency from 9 to 143 cases per 1000 children.

PREDICT, PREVENT, PERSONIFY – GENOMIC APPROACHES IN PREDICTIVE MEDICINE

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Last years are marked by rapid development of molecular-genetic technologies. Achievements in this area led to implementation of the project “Human Genome” (“Human Genome Project”), long-term studies on mapping of genes and determination of genome train.

«Genetization» of medicine led to appearance of molecular medicine. The last gave a birth to new directions of medical science, including predictive medicine.

We conduct in Kazakhstan single studies to reveal genetic predisposition to certain diseases. At the National laboratory of biotechnologies (NCB RK SC MES RK) we conduct studies on genetic predisposition to breast cancer, colorectal cancer, osteoporosis, cardio-vascular diseases, drug resistance to *M.tuberculosis*, pharmacogenomic of warfarin, lactose intolerance and other conditions.

The list of diseases with inherited predisposition and relevant genetic networks and allelic variants of single genes includes more than 25 diseases, e.g. such wide spread as heart diseases, diabetes, high blood pressure, breast cancer, lung cancer, cancer of prostate gland, drug addiction, asthma, osteoporosis an etc.

During examination any patient will be able to receive information about possible risk of development of known diseases, and physician taking into account all results of molecular-genetic analysis will be able to develop tactic of pathogenetic based preventive therapy, i.e. make necessary medicine correction of congenital metabolic defect.

The genetic testing itself which has not been supported by qualified medical -genetic consultation, and if necessary, and by recommendations of relevant specialists is deprived sense and, frankly could be only harmful. At the same time it is necessary to take into account arising ethical, legal and social questions. It is necessary to prove and develop scientifically methodological approaches for preventive maintenance of multifactorial diseases in Kazakhstan from positions of improvement of medical-genetic services, the organization of health care in view of the saved international experience.

STATUS AND PERSPECTIVES OF DEVELOPMENT OF CLINICAL BACTERIOLOGY IN MEGALOPOLIS (BY THE EXAMPLE OF ALMATY)

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Currently the priority direction for research by bacteriological laboratories, along with diagnostics of pathogenic germs, is microbiology for obstetric-gynecologic, surgical, therapeutic clinics.

The increasing role of clinical microbiology calls for increasing number of clinicists in the said areas of researches. In a megalopolis this is also related to growth of population, significant migration from and to countries with unfavourable infection epidemiological situation, increase of epidemiological contacts and risk of infection bringing, which the health care administration of the megalopolis has never had before. The outlined situation is typical for today's Almaty due to its establishment as the Regional Financial Center.

One of the most urgent matters in such megalopolis as Almaty is insufficient range of identifiable germs, particularly, viruses, pathogenic fungus, hard-to-cultivate microorganisms with specific alimental needs (mycoplasma, Rickettsia, Leptospira, hemophilic bacteria, bacteroids, etc.). Research in cross-infection has not been systemized yet.

From the organizational point of view, in our opinion, the main disadvantage of bacteriological laboratories is lack of unified system of bacteriological laboratories using uniform methodical approaches, planning of volume of analysis throughout the city and so on. There is no functional specialization of laboratories. Lack of up-to-date equipment does not allow introducing modern methods, which could considerably increase efficiency of researches and accelerate receiving of results of bacteriological tests. Bacteriological laboratories of medical treatment facilities are not ready to work in modern environment, which is characterized by emergence of new infections, need in fast laboratory tests, need in economic evaluation of cost of bacteriological analysis which is an important part of the treatment and diagnostics processes, etc.

With the objective of radical improvement of situation with clinical bacteriology in a megalopolis it is necessary to consolidate bacteriological laboratories of medical treatment facilities with a view of establishing a single service which would operate based on a single plan and will be oriented to medical treatment problems. The clinical microbiology of the megalopolis shall be based on the network of laboratories. Complexity of diagnostics study is to increase starting from peripheric laboratory to laboratories of middle level, while the most

complex tests should be done at the major and most qualified laboratory. It is advisable to centralize monitoring over antibiotic-resistant strains, and to plan based thereon activities of the city medical consultation commission, and study which require acquisition and storage of museum and reference strains.

The problems are encountered in procurement of food solution for bacteriological laboratories, medical immunobiological drugs and other diagnostics materials. The issue escalated after these materials have been classified as medicines, which requires their state registration. As to almost total import of such materials, the new requirement significantly hinders bacteriological laboratory diagnostics.

It is obvious that clinical bacteriology needs radical modernization, equipping with up-to-date devices and equipment. However, it should be noted that introduction of modern methods and technologies should not prevent from utilizing hereditary methodology, and to the contrary, should improve them and smoothly integrate with modern methods and techniques.

For resolution of issue of modernization of microbiological laboratories one should keep in the mind the issue of biosecurity in bacteriological laboratories because resolution of this issue generally depends on the level of logistical and methodical support of the laboratory service. Increased biological danger is caused by intensive contacts with consumptives, immunity compromised persons, special danger infections. Despite specialized services (laboratories of special danger infections, TB dispensaries), clinical diagnostics laboratories should also be ready to possible emergence of new diseases.

A significant problem for the laboratory medicine in general is improvement of qualification and information support for specialists in clinical microbiology. There is crucial need in new rules and regulations based on up-to-date knowledge in clinical microbiology and considering modern reality (procedure for state procurements, state registration of medical immunobiological drugs, specifics of modern financing, etc.). Selection of methods should be based on the consumption of agents for analysis, i.e. principle of reasonable sufficiency, and balance between price and quality, i.e. internationally accepted principles.

The system of certification of clinical microbiologists does not take into account difference between the discipline and other laboratory specialties (general clinical laboratory diagnostics, biological chemistry, cell biology, etc.). For example, tests used for certification of laboratory experts are common for all laboratory specialties, including clinical microbiology.

There are no scientific periodicals dedicated to laboratory medicine, which fact significantly impedes improvement of qualification of experts. Methodical support to bacteriological laboratories also needs to be updated. Economic justification of clinical bacteriological study has not been conducted so far, and share of costs for bacteriological and serologic assays has not been calculated with respect to diagnostics and treatment of various nosologies. Evaluation of labour and assay costs is of need for identification of a role of bacteriological laboratory in the whole clinical diagnostics process.

The ultimate aim of modernization of the Clinical Bacteriology Service is formation of modern service of clinical bacteriology which would be able to solve clinical and diagnostics tasks both present and future, to provide clinical doctors and health care bodies with reliable, true and up-to-date laboratory information with account of its advisability and ecological safety.

LABORATORY STUDIES' QUALITY PROBLEM IN MEDICAL INSTITUTIONS OF THE REPUBLIC

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Almaty Municipal Centralized Bacteriological Laboratory

The degree of laboratory medicine development characterizes the overall condition of healthcare. Its objectives include provision of clinical units and management authorities in healthcare with an objective, true and timely information. Results of clinical-laboratory service's performance are of significant importance for the correct clinical decision and subsequent monitoring of the treatment's efficiency since it delivers up to 80% of the objective diagnostic information to practical healthcare.

Improvement of medical services' quality is the current priority trend in public healthcare development. Laboratory medicine being the main source of information relating to the patient's health status plays a fundamental role in resolution of the given objectives concerning improvement of medical services quality.

The level of medical services' provision in the Republic, as well as the range of indices identified by laboratories, does not satisfy the current requirements. The reasons for lack of efficiency of laboratory service are various and preconditioned by numerous problems in the laboratory medicine as well as in healthcare system in general. First of all they are caused by lack of the systematic approach to laboratory medicine development, identification of priorities in resolution of problems as well as of modern systems of organizational approaches and management in clinical-diagnostic service.

Insufficient equipping (quantitative and qualitative) of the laboratories with facilitates, reagents, test-systems and etc. is one of the main problems. Modernization of laboratory equipment in general (but not in a certain CDL MO ("Clinical Diagnostic Laboratories of Medical Organizations")) is the main condition for improvement of laboratory studies' quality. Modernization shall be carried out with the view of sufficiently advanced requirements to the biological safety of clinical laboratories' personnel.

Another sufficient problem is the lack of laboratory personnel. The low attractiveness of laboratory job and significant professional hazards causes sufficient labour turnover. Young specialists are deprived of the due state support in preparation to professional activity in clinical laboratories of medical institutions. Lack of laboratory personnel disturbs intergenerational continuity among experienced laboratory specialists of senior age and their young colleagues. Specialists with biological education are almost deprived of the chances to be employed in the medical organizations (in the view of the deficit of personnel) although laboratory specialists are busy with analytical researches of biotic substrates but not with diagnostics of diseases.

Laboratory staff shall possess moral and material incentives to quality work taking into account occupational hazards of laboratory labour, increased danger of contacts with biological materials of diseased potentially bearing dangerous pathogens and etc.

One of the serious problems of the laboratory service is the low compatibility of the analysis results executed by CDLs of the Republic. The key analysis criteria characterizing the quality of clinical laboratory diagnostics shall be informational content, specificity, reliability, accuracy and timeliness.

These criteria determine the accuracy of the issued diagnosis, correction value of the medical diagnostic process and shall be ensured by internal and external control of analysis quality that require sufficient financial and labour resources.

While the internal control in CDLs of medical organizations continues to exist though in down-sized scope due to absence of controlling materials, serosity and etc., the external state control over the quality of analysis is absent at all. There is a long-felt need for the establishment of the service that would carry out external state control over the quality of laboratory tests by means of development of the regulatory legal base in this area of laboratory medicine.

The given situation prevents continuity of the results obtained in the laboratories of different levels, gives rise to distrust to the results of analysis performed in other medical organizations and causes intention to repeat all the tests including the most routine not taking into account clinical and economic practicability.

Standardization is one of the mechanisms that determine the quality of laboratory tests. In our opinion centralization of procurements of equipment and expendable materials for clinical and diagnostic laboratories of medical organizations within the frameworks of standardization would improve the laboratory tests' quality. This will ensure consistency of procured equipment and expendable materials and single incoming control.

There is no regulatory base in the area of laboratory medicine in the Republic.

Laboratory service needs to implement the principles of evidentiary medicine, particularly the principles of sufficiency and relevancy of the prescribed tests. The given thesis is of current concern since lack of the single approach forces clinicians to overbroaden the range and scope of tests or on the contrary to carry out them at minimum. Within the frameworks of evidentiary medicine economic appraisals of laboratory tests' efficiency gain the bigger importance as the main component of the medical and diagnostic process that allows for optimal use of healthcare resources at disposal.

Implementation of laboratory information systems (LIS) is a significant point facilitating improvement of laboratory diagnostics' quality.

Concentration of the certain types of the studies in the specialized centralized laboratories is widely developed in the world practice. In which case the prime cost of analysis decreases and expensive equipment is used more efficiently as well as labour resources, appears an ability to form specialized groups by separate divisions of clinical laboratory diagnostics within the centralized laboratories.

We have specified the key issues on improvement of clinical laboratory healthcare service efficiency solution of which will represent a significant step in improvement of laboratory studies' quality.

ASSESSMENT OF INCIDENCE WITH TEMPORARY DISABLEMENT OF MINERS WORKING AT SHUBARKOL OPEN-CAST

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Background

Intensive introduction of new technical processes, powerful and super-power machines, units and equipment during last time at the mining enterprises of Kazakhstan arises necessity of new objectives on development of effective methods directed on improvement and an establishment of safe working conditions for occupational medicine. One of the indicators reflecting impact of such factors as occupational, social and etc. on health of miners is an incidence with temporary disablement (ITD). During last time study of ITD in depth becomes very important in respect of identification of conditions of work, quality of medical care and

other factors which have an impact to ITD. We conducted study of ITD of miners working at the open-cast.

Methods and materials

Subjects of study: miners of main specialties who work at the Shubarkol open-cast with shift regimen (15 days – in the field and 15 days – out of field. We used epidemiological methods to study health status and ITD, statistical methods. We analyzed data of ITD per 100 workers during 2006-2008. Assessment of ITD was conducted on the base of the International classification of diseases (ICD -10).

Results

3,000 miners work at the Shubarkol open-cast, and 1,700 of them work in the field. Mean age of miners was $32,6 \pm 9,1$ years. In 2006 indicators of cases and days of disablement were $32,6 \pm 1,1$ and $449,4 \pm 20,3$ respectively. Comparing with 2008 we found decline in days of disablement on 13.3%. and growth on 14.6% of one case. In 2006 mean duration of one case was 12.6. Analysis of ITD revealed that in 2008 number of cases and days had a tendency to significant decline comparing with 2007 on 28.1% and 25.4% respectively. The mean duration of one case was 11.7 and 11.4 respectively.

The largest losses in working days were related to respiratory diseases ($96,8 \pm 2,7$ per 100 workers), musculoskeletal system ($95,5 \pm 2,7$ per 100 workers), and injuries ($89,4 \pm 2,6$ per 100 workers).

Thus, one of the main causes of high level of ITD among miners working at the Shubarkol open-cast is influence of adverse factors of eco-industrial environment in different seasons of the year.

Conclusions

Indicators of number of cases and days of disablement grows at the young persons, who worked from 1 to 9 years. That is, shift regimen of work (for 15 days), social - psychological aspects of conditions “shift way of life”, the industrial environment which depends on a season of year and the technology of open-cast mining of coal demands from human organism fast adaptation. The organisms of young workers are exposed various by the form, structure, force and duration of production factors, that inevitably leads to occurrence of a wide spectrum, as on severity, and by the form different illnesses.

APPLICATION OF JMP (STATISTICAL PROGRAM) IN ANALYZING STATISTICAL DATA: CORRESPONDENCE ANALYSIS

Today, the application of statistical programs for analysis of statistical data is widely accepted. There are a great variety of statistical packages, for example SAS, S-plus/R, SPSS, Stata, Matlab, Excel etc., which describe data and perform various statistical tests on the data. But, many of these programs in most cases are able to give for researchers only simple calculations like mean, frequency, standard deviation etc. whereas only a minority of them are able to analyze statistical data and give more detailed information about relationships between different categorical, continuous and ordinal data. This article gives information on how to obtain more detailed and graphically illustrated analysis with the help of JMP statistical software. As an example for illustration an ability of the program in analyzing statistical data it had been described correspondence analysis.

Correspondence analysis is applicable for tables with large numbers of levels where deriving useful information from the table can be difficult. Correspondence analysis is a graphical technique to show which rows or columns of a frequency table have similar patterns of counts. In the correspondence analysis plot there is a point for each row and for each column.

Define the row profile to be the counts in a row divided by the total count for that row. If two rows have very similar row profiles, their points in the correspondence analysis plot will be close together. Squared distances between row points are approximately proportional to Chi-square distances that test the homogeneity between the pair of rows.

Column and row profiles are alike because the problem is defined symmetrically. The distance between a row point and a column point has no meaning but the directions of columns and rows from the origin are meaningful, and the relationships help interpret the plot.

Correspondence analysis is especially popular in France (Benzecri 1973, Lebart et al. 1977) and Japan (Hayashi 1950) but has only recently become popular in the United States (Greenacre 1984).

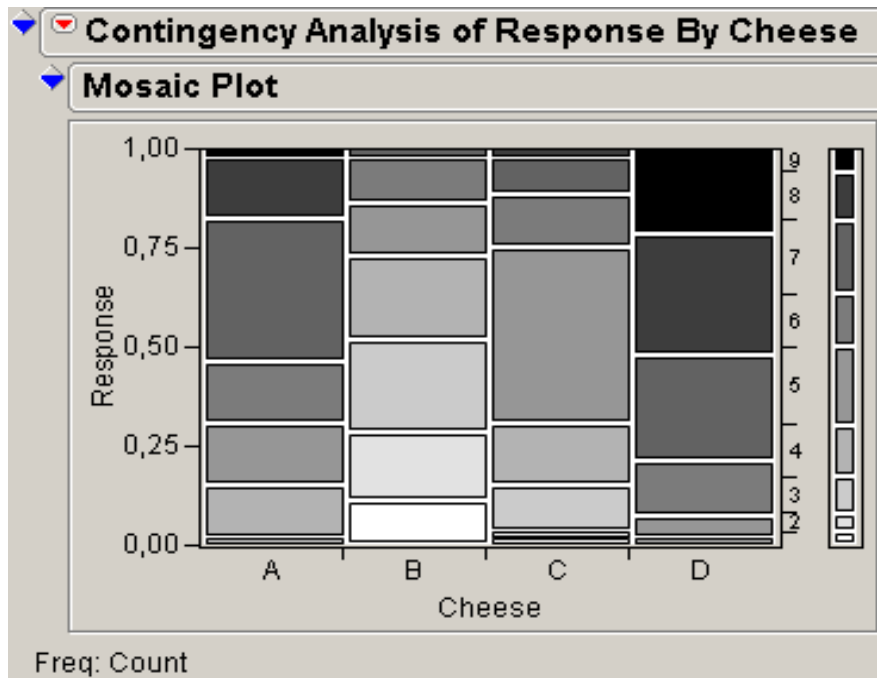
As an example for correspondence analysis it had been taken the Newell cheese tasting experiment as reported in McCullagh and Nelder (1989). The experiment records counts over nine different response levels across four different cheese additives. The dependent variable "Response" levels have the ordinal modeling type, with values 1 to 9 where 9 is best tasting. The x factor is "Cheese", and "Count" is a frequency variable.

Figure 1 JMP data table on cheese testing

Cheese					
Notes Data from McCullou		Cheese	Response	Count	Score
Fit Model		1 A	1	0	-0,8622
Contingency		2 A	2	0	-0,8622
		3 A	3	1	-0,8622
		4 A	4	7	-0,8622
		5 A	5	8	-0,8622
		6 A	6	8	-0,8622
		7 A	7	19	-0,8622
		8 A	8	8	-0,8622
		9 A	9	1	-0,8622
		10 B	1	6	2,4895
Columns (4/0)		11 B	2	9	2,4895
Cheese		12 B	3	12	2,4895
Response		13 B	4	11	2,4895
Count		14 B	5	7	2,4895
Score		15 B	6	6	2,4895

After using the functions related to correspondence analysis in JMP program, we can immediately see in the mosaic plot "[Mosaic Plot of Cheese Data](#)" that the distributions don't appear homogeneous. However, it is hard to make sense of the chart across nine levels. A correspondence analysis can help define relationships in this kind of situation.

Figure 2 Mosaic plot of Cheese Data

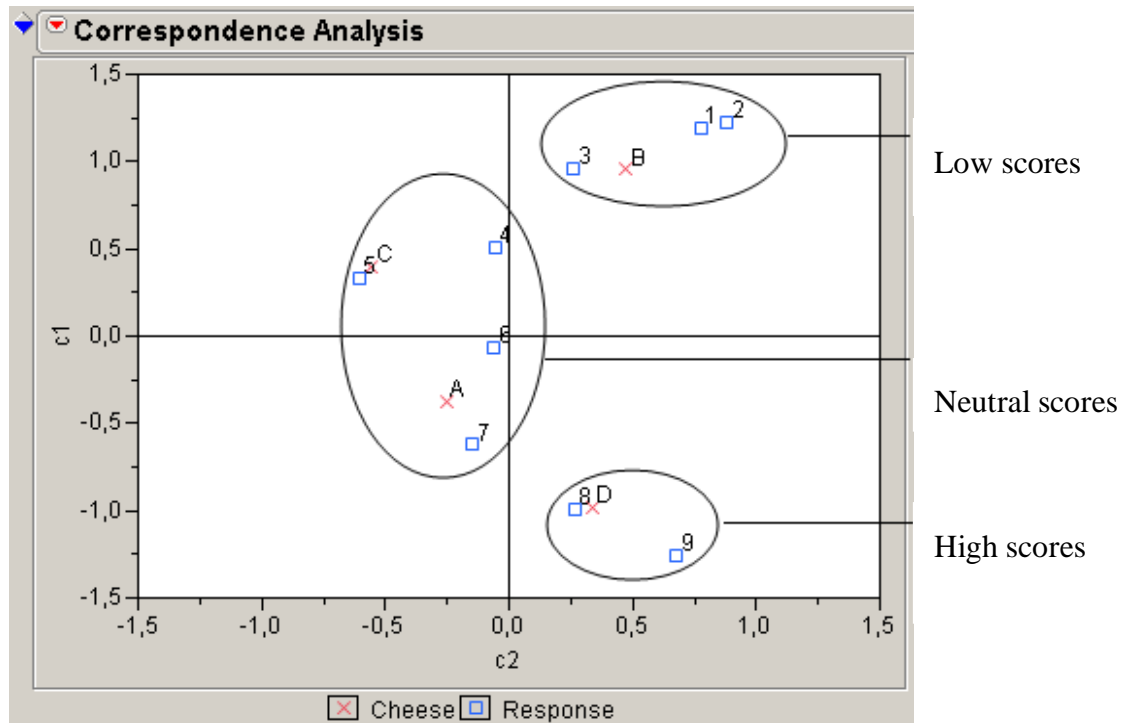


The Correspondence Analysis command first displays the plot in "[Correspondence Plot for the Cheese Experiment](#)", which shows correspondence analysis graphically with plot axes labeled c1 and c2. You read the plot like this:

- **Higher response levels** tend to be negative in c1 and positive in c2.
- **Moderate response levels** are negative in c2 and neutral in c1.
- **The lowest response values** are positive in c1 and c2.

The c1 axis tends to score the response levels linearly. The c2 scores indicate non-neutrality. From the directions established, it is clear that D is the winner as best-liked cheese, and in descending order the others are A, C, and B.

Figure 3 Correspondence plot for the Cheese Experiment

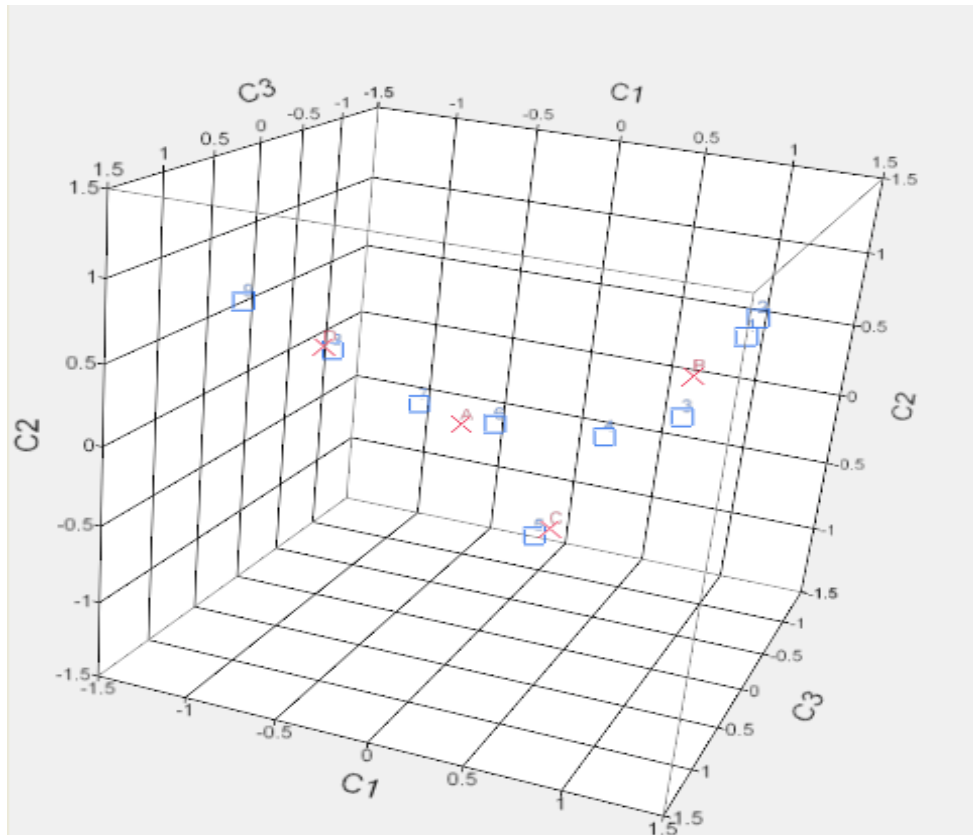


The Save Value Ordering command takes the order of the levels sorted by the first correspondence score coefficient and makes a column property for both X and Y columns.

In these correspondence plots, often the points overlap and it is difficult to see all the labels. The **Make Table** command, located in the platform drop-down menu, outputs the table of both X and Y labels and scores so that you can better examine the results. The output table includes a script that produces the appropriate plot for a 3-D correspondence analysis.

We can conclude that c_1 , the most prominent component, corresponds mostly with the response level, and c_2 corresponds with some quality that is different between A and C cheeses, and B and D cheeses.

Figure 4 Plot for the Cheese Example



Thus, we would say that JMP (statistical package) gives for researcher big opportunity in doing variety of data manipulations. Analysis of Newell cheese tasting experiment is only one example in a million which show us how researchers can use this statistical software in their data analysis. In conclusion, we can suggest that this statistical package can be useful in all type of studies and researches including medicine.

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DIFFERENTIATION OF PATIENTS WITH ADDICTION TO PSYCHOACTIVE DRUGS BY LEVELS OF CLINICAL AND REHABILITATIVE POTENTIAL

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From the point of view of modern rehabilitation and neobilitation approaches under the conditions of highly structured rehabilitation center “Home on a half a way”, we have conducted a differentiation of patients with psychoactive drugs addiction by levels of rehabilitation potential – high, average, low, - which allowed dividing the flows of narcological patients taking into account the severity of disease and medical-social consequences of narcotization, to justify their direction into that or another rehabilitation organization, and also to determine the duration and volume of treatment-rehabilitation activities.

Before highly structured stage of rehabilitation in the modern rehabilitative center “Home on a half a way”, on the stage of hospital chain, there was determined level of rehabilitation potential in patients.

In persons with average level of rehabilitation potential - 71,6% (367 patients) in premorbid stage (first block) there have been determined hereditary load by straight or ascending line of parents. Quite often upbringing of patients was realized in incomplete families (325 patients - 88,5%); financial position of the family was average or poor (in 358 examined - 97,5%); interpersonal relationships of family members were often unstable (367 patients - 100%). There was noted deviant behavior, easy suggestibility. Most of the patients has developed socio-phobic syndrome. The situations more often causing socio-phobias were related to communication with persons, who don't use psychoactive drugs, such as: acquaintances, communication, especially with persons in status, receipt of guests, dining with them, and any kind of work in the presence of other people, first meetings with physician or psychologist [1].

So called disturbance of communicativeness in patients with psychoactive drugs addiction were attached exclusively to that environment, in which they don't use psychoactive substances, and condemn their usage. An in that very environment, free of drugs, socio-phobia was expressed and, therefore, communication of patients was found to be difficult.

Decrease of the intellectual power of apprehension in patients with average level of rehabilitation potential had a well-defined clinical picture. First of all, it was related to decrease of all types of memory, concentration of attention, capability to summarize and pick out the essentials. Characteristic violations were also poverty of imagination and rigidity of thinking [2].

Essential changes were revealed also in emotional realm, in the form of affective lability, depressive-anxious manifestations, fixed fears, suicidal thoughts. During a long time there was kept Продолжительное время сохранялась hypochondriac, depressed mood, and asthenia. There was observed inclination to excess dramatization of the situation, pessimistic attitudes to treatment and possible rescue from psychoactive substances addiction.

Thus, for patients with average level of rehabilitation potential, the following was characteristic: fully developed stage of the disease, significant disturbances in the social status, moral-ethical and intellectual reduction. There was noted “organic” degradation of light and moderate level in patients, which has detected organic integrity of medical, personal, and social consequences of the addiction to psychoactive substances. But a reservation should be done, that the described disturbances, concerning cognitive field, behavior, and socio-phobia, under the condition of prolonged abstinence from the psychoactive substance, can acquire transitory

character, which allows hoping for the effectiveness of complex treatment-rehabilitative activities in this contingent of patients.

In patients with low level of rehabilitation potential - 28,3 % (145 people) has been detected charged heredity with narcological and psychiatric diseases by parents line or the most close relatives. Not rare that they were grown up in incomplete families of average or low financial position. Relationships in family often were disputable, alcohol abuse or drug addiction of one or both parents, is considered to be even as a natural event. In the anamnesis of such patients very often infantilism, neurotic development of personality, psychopathic, deviant, and sometimes even delinquent behavior have been noted. School advancement was usually satisfactory; education before starting to use psychoactive drugs is at the level of incomplete high school. Circle of interests is extremely narrow and unstable. Usage of psychoactive substances has been started from 11-12 years old.

In patients with low level of rehabilitative potential the following were marked: early onset and long-termed addiction to psychoactive substances, asocial lifestyles, moderate or severe level of personality degradation. Peculiar defect of personality such as schizoid, psychopathic alike, or psycho organic type, was formed. The majority of the above described disturbances (moral-ethical, intellectual, affective) have been acquiring stability. Only prolonged treatment-rehabilitative activities were able to decrease their acute character, and for some degree to attach them a transitory character.

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DISEASES OF THE RESPIRATORY SYSTEM IN A LARGE CITY AND THEIR CAUSES

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Epidemiologic analysis of diseases of the respiratory system in the city Bishkek with a population of 789,500 and an area of 270 square km is presented. Based on doctor visits data, diseases of the respiratory diseases make up 32.2% of the total morbidity. The respiratory morbidity in the city Bishkek (12250,3 ‰) is 1.5 times higher than that in the entire republic (8011,1‰). The incidence of pulmonary diseases is 4.4 times higher in children (31328,4 per 100 000 population) than in adults (7185,2 per 100 000 population). High risk of pulmonary

illness is due to a high level of anthropogenic pollution of atmospheric air in the city Bishkek. Bishkek is the most polluted city in the republic. The respiratory morbidity is found to increase with increasing pollution of atmospheric air. Pearson's correlational factor (r) for the total pollution is 0.83. The maximum allowable concentration is exceeded 6,6 times for technological dust, 33.3 times for formaldehyde, 19.3 times for nitrogen oxide, 20 times and 50-70 times in some zones for benzo(a)pyrene. These compounds are important contributors to respiratory morbidity. Pearson's coefficient is 0.58 for technological dust, 0.67 for benzo(a)pyrene, 0.64 for carbon monoxide.

Another cause of the high prevalence of diseases of the respiratory system is the limited atmospheric air self-purification capacity due to natural and geographical features, including situation at altitude above sea level (1450 m), circular layouts of private houses with stove heating, heavy traffic in most streets, wind regime and landscape features.

MEDICAL AND SOCIAL ASPECTS OF TEEN PREGNANCY (LITERATURE REVIEW)

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WHO strategy for XXI century includes Section 3 about «Healthy beginning of life» specifies, that to 2020, all newborns, children of younger age and children of preschool age in region should be more healthy, that will provide them healthy beginning of life. It assumes Task 4 - «Healthy youth»: to 2020, the youth in region should be more healthy and be better prepared for carrying out the duties in a society. In this connection the Republic of Kazakhstan as a member the WHO, has big tasks in maintenance of general availability of protection of reproductive health.

"Reproductive health" today includes a harmonicity and equation in concept of physical, sexual, psychosexual, psychosocial development, somatic and mental health of the teenager, and not just gynecologic diseases and STIs. Wider sense is put in the term «reproductive potential» as a level of physical and mental condition which allows to reproduce healthy posterity at achievement of a social maturity.

Last decades are characterized by expressed tendency of increase in number of pregnant women among teenagers which is connected not only to sexual liberalization, but also with earlier somatic maturing.

Child-bearing at teenage age, especially before 16 years old, represents more serious health hazard for teen girl and for newborn, than child-bearing at mature age, that is connected to an opportunity of formation of a fistula during labour (as result of underdeveloped of pelvic bones of patrimonial ways) and hypertension. By estimations of WHO for teen girls a degree of danger to die due to reasons connected to pregnancy, in 20-200 % higher, than for adult women (less age of the teen girl more risk to die).

Thus, among the questions of public health connected to sexual health of teenagers, the greatest concern is caused with teenage pregnancy and its consequences), and also the sexually transmitted infections (STIs). These phenomena cause significant medical, social and economic problems in young people, however they can be warned the coordinated efforts of family, school, medical and educational organizations and public organizations.

PROBLEMS OF ADOLESCENTS' REPRODUCTIVE HEALTH (REVIEW).

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Under the modern demographical crisis problems of reproductive health of the young generation are becoming extremely important. By long-term observations the indicators of the status of reproductive system in women of fertile age have a tendency to worsening, and a retrospective analysis of its formation has revealed a high percentage of various disorders already in a puberty age. So, gynecological pathology in adolescent age was noted in 1/3 of women, suffering from infertility, in 40% of women with miscarriage and pregnancy failure, in 50-60% of girls, admitted to the 2nd and 3rd groups of health. In the structure of gynecological pathology in girls under 18 years old "functional" disorders (menstrual disorders - 18,38% and dysmenorrhea – 16,33%) are on the second place after inflammatory diseases (44,37%). However, these dysfunction often remain out of the view of specialists, who are appealed usually in several years later from the appearance of the first symptoms of the diseases and already in the presence of the intensive secondary organic changes (for example, polycystic ovary. It is obvious, that these problems have their roots in the earlier stages of ontogenesis. Importance of the neuro-endocrine regulation in the development and realization of reproductive function determines careful attention to study of the peculiarities of neuro-psychic development of girls with high risk of its disturbances.

Thus, treatment of girls at the puberty age with disorders of menstrual function should be complex, pathogenetically justified, of sufficient duration, with application of the modern pharmacological medicines, which don't have side systemic effects on the young organism. As a criterion of the effectiveness of the treatment being conducted the normalization of a menstrual function should serve.

APPLICATION OF CONTRACEPTION BY ADOLESCENTS (LITERATURE REVIEW)

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Modern youth population is characterized by high level of sexual activity, which can lead to early and unwanted pregnancy, criminal abortions, risk of acquiring sexually transmitted infections (STI) if not to use contraception methods. Contraception in adolescents partly allows avoiding the above listed consequences, being one of the ways of reproductive health maintenance.

Recently the attitude towards hormonal contraception in adolescents was changed positively both from the side of medical professionals, as well as from public opinion's side. However, according to the accumulated experience of application of modern contraceptive methods in adolescents, it becomes obvious that some of them have a negative influence on a forming organism.

Methods of contraception in adolescents should answer to the following requirements: to be safe for health, highly effective, convenient to use, accessible for purchase. Application of micro dosed oral contraceptives not only allows to prevent effectively unwanted pregnancy in young women, but under the proper individual selection and observation it renders intensive curative effect on somatic and reproductive health of adolescent girls.

The revealed tendencies to the increase of the level of contraception culture are determining favorable rates of decrease in the number of abortions.

As researches have shown, all adolescent respondents consider the knowledge about contraception to be significant for their lives; however, it is not sufficient yet. All adolescents confirm that they want to know about contraception more. Therefore, there is an acute need in sexual education of adolescents, and questions of contraception are part of it.