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DEMOGRAPHICAL PROCESSES IN THE REPUBLIC OF KAZAKHSTAN

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Conducted historical analysis of demographical processes determined tendencies, dynamics of population number increasing in the republic, but this process was not equal. Problems relating to population quantity and quality sharpened at the end of XX century. Main factors leaded to this were consequences of emigrant policy at the beginning of XX century, revolution, and civil war, starvation in the 30-ths years, collectivization, repressions, and Second World War Nowadays, demographical situation has been assessed as difficult till 1999 when there was every year decreasing of population number. This happened because of birth rate decreasing, high morbidity and mortality levels, and sizeable migration flow-out. Since 2000 there is noted increasing number of population and stabilization of above mentioned rates.

During second part of XX century four general and one national (1999) census was conducted in Kazakhstan. For the period of 1959 through 1989 number of population increased from 9283.2 thousand to 16199.1 thousand i.e. in 1.7 times. Number of population reduced till 14953.1 thousand in 1999, i.e. on 7.7 % in comparison with 1989.

During conducted analysis there was determined that urban population in the country is more than rural population. Due to data in 2006 urban population was 8 million 765 thousand people, and rural is 6 million 543 thousand people.

Age structure of population for the January 1, 2007 was following: children under 15 years were 3689.3 (3680.6) thousand, i.e. 24% (24.2), people in age of 15-64 years – 10497.3 (10344.7) thousand, i.e. 68.2% (68.0), people in age 65 and more years – 1208.1 (1194.0) thousand, i.e. 7.8% from general population. In comparison with the status for the January 1, 2006, number of children under the 15 years increased in 8.7 thousand, i.e. on 0.2%. Number of people in age of 15-64 years and 65 and more years increased in 152.5 thousand and 14.1 thousand, i.e. on 1.5% and 1.2% accordingly.

Consideration of gender structure of population in the republic in 2006 determined that per 1000 women were 928 men, and in rural area per 1000 women were 1001 men. Number of men for the January 1, 2007 was 7407.8 (7324.8) thousand, i.e. 48.1% from general population, women, accordingly 7986.8 (7894.5) thousand, i.e. 51.9%

During last 6 years in Kazakhstan rate of population growth was 2.9%, although this process of increasing did not cover all country oblasts. Age structure of population is characterized by increasing of elderly people and some increasing of children.

In Kazakhstan is noted regional (oblast) difference, especially south and north regions that are extremely different to each other by rate of population reproduction.

Statistical data in 2006 determined that in South Kazakhstan there is highest fertility rate – 22.91 per 1000 populations, and low rate of mortality – 6.99. Against in North Kazakhstan there is lowest fertility rate 12.55, and highest mortality rate – 13.93. Almost same situation is in East and Central Kazakhstan.

Above mentioned situation could be due to social-economical and ethnical differences. In this regards it is important aspect is research of population opinion about their reproductive behavior, family planning according to the regional and ethnical peculiarities.

EPIDEMIOLOGICAL STUDY OF RADIATION EFFECT TO POPULATION HEALTH IN SEMIPALATINSK REGION

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Epidemiological study was conducted through examination of inhabitants receiving during long time repeatedly impacts of small doses of external and internal irradiation during trials by nuclear and thermonuclear weapons in Semipalatinsk polygon. Target cohort included 25140 people. Individual effect equivalent doses (EED) was calculated due to model of professor Gordeev K.I. that demonstrate relations between real space-time radiation and biologival processes of nuclear explosion products' impact to person. Liaison of irradiation EED and death reasons was analyzed for 3768 members of cohort. Results of preliminary analysis show that increasing of neoplasms level and different diseases prevalence influence with irradiation.

Main archival document for forming of computer data base was household books from 1949 to 2000 years with information about family structure, date of birth, profession and living period of cohort members in pilot villages. People are living today in pilot villages were surveyed for collection of additional individual information. Also it was entered medical information on mortality, morbidity and information on period and place of army duty for cohort members. Number of inhabitants with full history of living in the period of 1949-1963 was 11931 (47%), number of died cohort members was 4607; from them with known reason of death were 3768 people.

Most frequent reason of death of cohort members was heart and neoplasms diseases. Preliminary analysis of relative radiation risks demonstrated that these diseases are in close liaison with radiation impact in consequence of trials in Semipalatinsk polygon.

Influence of long impact of small radiation doses to population health was not be defined till today. We study materials from different sources. It is necessary to note about lack of knowledge on real radiation impact and conclusions in these sources are not accurate and should be reviewed.

Thyroid gland is very important for risk assessment because high level of thyroid gland neoplasm was defined after Chernobyl accident and nuclear trials in Semipalatinsk polygon. In this research there were determined three cases of died cohort members who had in history thyroid gland neoplasm, but these people had another reason of death. In our study we defined 14 cases of different types of leucaemia. Although risk of leucaemia is high in first time right after irradiation, we think that to comprehensive analysis of risk it is necessary to get more number of data.

Preliminary assessment of relative risk of neoplasms and heart diseases among population living in rayons of Semipalatinsk region and effected to radiation impact in consequence of trials by nuclear and thermonuclear weapons demonstrated high relative risk for all types of neoplasm (1.77). This study shows that relative risk of neoplasms among inhabitants living near the Semipalainsk polygon is higher than among them who stay alive after atomic bombing in Hiroshima and Nagasaki. Furthering data collection is necessary for assessment of factual risk of diseases.

Acknowledgements

This study was sponsored by Japan Ministry of education, culture, sport, science and technologies. We are grateful to Dr. Inabe and Dr. Tatsumi for critical review of this manuscript, to members of Radiation Effects Association for technical assistant, to members of Committee on health effects study for discussion and counsels regarding this study, to members of Center on study and prevention of radiation effects for collection and elaboration of primary materials.

IMPORTANT PROBLEMS OF STATE SANITARIAN AND EPIDEMIOLOGICAL SURVEILLANCE AFTER USING OF MODERN PESTICIDES IN

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Issues of safety using of pesticides is very important also for our country because of every year increasing of their assortments and volumes.

In Kazakhstan pesticides safety controlling and their impact to population health and environment are performed by sanitarian and epidemiological service. Directions of activity of sanitarian and epidemiological surveillance services on controlling after using, storage and realization of pesticides is defined by Law of the Republic of Kazakhstan (RK) on Sanitarian end epidemiological well-being of population from December 2, 2002 # 361-II (with changes invected by Law of RK from December 20, 2004 # 13-III), Government regulation of RK from April 15, 1996 # 439 on Prohibition of using ecologically harmful pesticides and rules of their burial in the Republic of Kazakhstan and also Sanitarian rules and norms 4.01.001-98 on Sanitarian rules on storage, transportation and using of pesticides in agriculture. Order of governmental hygienic registration of pesticides is regulated by Ministry of Health of RK.

Main problem is the integration of sanitarian legislation of Kazakhstan on pesticides with international legislation and standards that required reviewing of current and preparing of new technical requirements, sanitarian rules and hygienic norms. This requires coordination and consistency of ministries and authorities activity of RK leading production, processing and realization of agricultural stuff and nutrition products, activation of cooperation with purpose of provision of effective and rational using of available resources.

It is necessary to note that current time there is impossible to get full information on volumes and nomenclature of using on the country territory pesticides. Reviewing of information collection system and all forms of reporting could essentially help in getting necessary data for improvement of pesticides control, substantiation of decisions on prevention of negative impact to health and environment, and increasing effectiveness of sanitarian and epidemiological surveillance in this field.

Important surveillance direction is monitoring after using and maintenance of residual amounts of pesticides in environmental and nutrition product objects. However there is absent of specialists who have in his functional duties only issues of surveillance after rational and safety using of pesticides. Usually specialists of sanitarian and epidemiological services perform these functions in addition to others.

Thus, in nearest future priority directions of actions in problem decision on safety dissemination and using pesticides are:

- development of legislation and methodological base for effective sanitarian and epidemiological surveillance in this filed;
- improvement of laboratory technologies and control after residual micro-quantity of pesticides in environmental and nutrition products objects;
- implementation of modern system of monitoring for assessment of medico-sanitarian situation caused by pesticides pollution, decision making on development and implementation of preventive measurements.

BEHAVIOR RISK FACTORS INFLUENCE TO HEART DISEASES AND HYPERTENSION AMONG POPULATION LIVING IN AREA CLOSE-FITTING TO SEMIPALATINSK NUCLEAR POLYGON

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Heart diseases are very important problem of world public health. Risk factors for them are people lifestyle and behavior. Another important problem of our country is minimization of consequences from nuclear tests conducted in 40-ths in Semipalatinsk region. Although this polygon is closed a lot of time, medical, social and ecological problems are still actual and require their decision. Scientific researches of population health status on this area defined high level of oncological and chronic non-infection diseases. Accounting presence of double effect of risk factors – radiation and behavior there was decided to study peculiarities of heart diseases and hypertension development among population of this area. Presumably received data could help in prevention program creation among population living in area close-fitting to nuclear polygon.

Goal of the research

To study behavior risk factors influence to heart diseases and hypertension among population living in area close-fitting to Semipalatinsk nuclear polygon and received radiation effects. .

Research design

Prevalence level of heart diseases and hypertension, behavior risk factors were studied among control and base groups selected randomly. There were used survey and interview to collect primary data. Case-control epidemiological and variation statistics methods were used in the analysis, data processing was conducted through SPSS 10.1 program.

Conclusions

1. High prevalence level of heart diseases and hypertension is noted among population living in area close-fitting to Semipalatinsk nuclear polygon Heart diseases was determine among 46.9% and hypertension – among 40.2% of population.
2. Medico-social analysis defined presence of such factors as unfortunate domestic surroundings (irritability during a day - OR = 4.8–6.3; <0.001; Rxy = 0.83, nutrition regime - OR = 1.9; <0.01), satisfaction by living condition (partly satisfied OR = 2.4; <0.001). Analysis of social-psychological and behavior risk factors determined strong influence such factors as long sleeping (more than 8 hours), OR = 1.9; <0.001; hypodynamia (no sport – in 100%; OR = 4.8, no physical exercises – in 100%; OR = 2.7), partly satisfaction by medical services (OR = 1.8; <0.01), bad habits – smoking (OR = 2.0; <0.001) and alcohol using 1 time a month (OR = 13.4; <0.001).
3. There is defined correlation between heart diseases prevalence and presence of 3 and more chronic infection firesides (diseases) (67.8%, <0.001; OR = 2.5).

NOSOCOMIAL INFECTIONS IN THE REPUBLIC OF TAJIKISTAN: CONDITION, PROBLEMS AND DECISION WAYS

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In many countries of the world against a background of decreasing the classical infection diseases there is still problem of nosocomial infections. Complex of factors is conductive to nosocomial infection increasing and prevalence. Main of them are uncontrolled antibiotics using, activate transmission mechanisms of septic purulent infection pathogens.

Due to report data of medical organizations frequency of nosocomial infections in the hospitals of Tajikistan is from 0.9 to 4.4%. However due to our study these data in many times more, leading place takes infections of newborns, women in childbirth, patients after surgery, then among patients after dental, diagnostic and other medical manipulations.

Staying of patient with nosocomial infection in the hospital is extended for 5-21days with additional costs of one clinical day from $50 to $700 and more depends on each clinical case. Currently this is one of the main reasons leading directly or marginally to quick rise of hospital treatment prices that is not possible especially in condition of health care financial resources deficiency in the republic.

In this regards it is necessary to improve measurements on nosocomial infections' prevention and implementation of system approach to management, resource economy and provision of high-qualified treatment-diagnostic process. USA experience is evidence about effectiveness of new technologies implementation on nosocomial infections' prevention. There were organized infection control services and developed monitoring programs according to specificity of different profiles hospitals. New approaches to nosocomial infections' prevention and practice of infection control have been implemented since 1997 in many countries of NIS. Their theoretical and practical aspects every year are discussed and positive assessed in many countries in the world (USA, Ukraine, Russia, Kazakhstan and others), seminars and conferences are held. Representatives from Tajikistan also were participants of these events.

Main reasons of nosocomial infections in hospitals of Tajikistan are violation of sanitarian and epidemiological requirements including violation of disinfection and sterilization regime for medical tools, equipments, dressing and others; increasing volume and types of medical services, lack of qualified medical staff, nonobservance of aseptic and antiseptic rules, personal hygiene and professional safety; multi-resistant bacterium circulation within the hospital, presence of their carriers among medical workers; underestimation of epidemiological and professional dangerous of carriers for patients; overestimation of antibiotics protection role and broad using of them without tests for bacterium sensitiveness.

To improve measurements on prevention of nosocomial infections in the country system of epidemiological surveillance and monitoring for nosocomial infections is developed. Commissions on infection control are organized in under the health care and sanitarian epidemiological surveillance organizations that perform following activity:

1. Development of using strategy and tactics for disinfectants, antiseptics, antibiotics, and other drugs.
2. Providing laboratory diagnostics of all nosocomial infection cases and monitoring after circulation of their agents.

3. Increasing effectiveness of disinfection and sterilization measurements' holding.
4. Prevention measurements optimization of nosocomial infection with different transmission ways.
5. Providing quality of medical services and professional education of medical workers.
6. Implementation of new technologies, equipment and tools including provision of communal communications' working.
7. Assessment of economical damage from nosocomial infections and economical effectiveness of preventive measurement.

QUALITIY OF LIFE IN SMOKING PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Chronic obstructive pulmonary disease (COPD) became one of the most prevalent diseases in the world last years. The most important risk factor of this disease in 80-90% is smoking. Current time there is actual issue to define quality of population life or target groups.

The **goal** of the research is to study quality if life of smokers with COPD.

Materials and methods: there was conducted examination of patients with COPD II stage among 132 men of average age 47.8±9.8; and 91 women of average age 47.4±10.0. Diagnostics of COPD was conducted due to general accepted criteria. As control group became healthy residents selected by randomize method. Survey SF-36 was used for quality of life assessment.

Results:

Quality of life values among all patients with COPD II stage are reduced in comparison with control group. Smoking as disease does not lead to quality of life worsening among healthy people, but among patients with COPD there is noted reducing of physical activity that is one of the criteria of quality of life.

As smoking is factor of COPD disease so there are differences among quality of life value among smoking and non-smoking patients.

There is correlation between values of external respiration and SF-36 survey scales. This confirms that quality of life and functional status are different definition. Quality of life data allow defining influence level of disease to patient life, defining his individual reaction, and also help to doctor to provide psychological assistant in forming of positive attitude to treatment. COPD treatment programs always should account quality of life data and aspire to improvement of this value among patients.

Conclusions:

1. Smoking prevalence among healthy men is 40%, among patients with COPD II stage – 58%,
2. Intension of smoking is more than 200 among patients with COPD II stage, 30.1% and 4.7% among control group accordingly.
3. Quality of life among patients with COPD II stage is reduced by all values of SF-36 survey.
4. Quality of life among smoking patients with COPD II stage is reduced by physical activity scale.

SOCIAL PROTECTION OF DISABLED PEOPLE: MODERN CONCEPTUAL APPROACHED IN THE REPUBLIC OF KAZAKHSTAN

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Disability is one of the social phenomenons that could not be avoided by society. Each government forms social and economical policy for invalids due to its development level, priorities and capacity. Disability is one of the indicators of public health and has not only medical but also socio-economical meaning.

Modern definition of disability and rehabilitation notes that medical model of disability when disability is a functional disorder of human body and person is passive participant fully depending from medical workers is not appropriate in current time. Since 1981 (International year of invalids) social model of disability has been more and more important. This model makes accent to importance of invalid and role of society in his rehabilitation. It is important to note that without accepting of disability social model there would not be World Program of Actions on Disabled people problems approved in 1982 by General Assembly of the United Nations Organization. This program «…noted disabled people rights to have same with other people opportunities for life conditions' improvement, what is result of economical and social development. Also in this program first time disability was defined as function of relations between disabled people and their environment».

Social model was developed as alternative paradigm to medical perception of disability. That's why this model mainly directs to barriers' defining that isolate disabled people and do not allow them being full member of their society. International Classification of functioning, health and vital activity limitation, approved on May 22, 2001 at the 54 Session of WHO Assembly bases on two opposite models – medical and social. Bio-psycho-social approach is used to unite different sides of functioning.

Law of the Republic of Kazakhstan "About Social Protection of Invalids in the Republic of Kazakhstan" was approved on April 13, 2005. This Law foresees transmission from medical model to medico-social model of social protection of Invalids, and disability prevention.
Law provides:

- Assured volume of medical care for invalids due to regulations;
- Sanatorium-spa treatment of invalids including children-invalids (first time);
- First time – special assistant for invalids of 1 group having difficulties in movement and to invalids by ear, specialists of gesticulation language since January 1, 2006;
- Prosthetic-and- orthopedic care, technical supporting tools, special too; for movement, required hygienic tools (first time), sanatorium-spa treatment at the expense of government for invalids getting labour injury or professional disease, in case of liquidation of legal entity, or stopping of activity of employer – individual owner;
- Data base development for invalids and people having disabling diseases;
- Development of governmental standards of social service and expanding of list of social services that will be provided in territorial centers on social care including daily hospitals;
- Expanding of social care providing at home that will give more accessibility to social services for invalids and allow holding them in family conditions.

There is Article on norms for provision of invalids by dwelling. Law first time foresees quota for admission to middle and higher professional education institutions, privilege on scholarships. For children-invalids there foresees education at home and expenditures' reimbursement.

For job placement of invalids there foresees three percent quota of job places, opening of special social job places, development of regional programs on rehabilitation including

supporting activity of special social organizations of invalids. Special chapter defines participation of employers in social protection of invalids.

Authorized body in social protection and its territorial units are responsible on control for implementation of this Law.

The transition to a market economy has initiated changes in the system of social security and determined a shift from a completely unitary system of social protection to a mixed one.
Due to Concept of social security system of the Republic of Kazakhstan approved by the government on June 27 2001 offers a model system of social protection including elements of both solidarity and targeted systems of mandatory and voluntary insurance.

On April 25 2003 the Law on Mandatory Social Insurance was adopted. The Law became effective on January 1, 2005. The Law on Mandatory Insurance of Civil Liability of Employer Against Disablement of Employee While on Duty was adopted on February 7, 2005 and has been in force since July 1, 2005.

Thus, there was reforming of one-level system of social protection to three-level system.
First level: allocation of benefits from the budget for all citizens equally (depending on social risks).
Second level: provision of all formal sector employees with additional benefits from a mandatory civil liability system until retirement age or discontinuance of basis for insurance payments.
Third level: in case of disablement or loss of breadwinner caused by occupational disease, additional social aid is provided until the end of the basis for insurance payments.

Changed social-political conditions create preconditions for understanding of social protection not as narrow special, but governmental problem taking interests of whole society, and governmental responsibility relating to invalids is provision of social protection. This imposes to local authorizations and employers responsibility on legislation realization in social protection of invalids.

ORGANIZATIONAL MODEL OF SPECIALIZED MEDICAL CARE FOR PATIENTS WITH OSTEOPENIC SYNDROME AND OSTEOPOROSIS

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Osteoporosis for Kazakhstan as same for the world is one of the important problems in the public health. Its frequency is constantly growing during last decades. Currently necessity of osteoporosis problem reviewing became ripe in our republic. This depends on implementation of first stage – population and medical personnel's introduction with peculiarities of this pathology.

Research objectives – critical assessment of population's bone tissue condition in Almaty, to define risk factors that are conducive to bone tissue strength reducing, and base on this to develop organizational model to health care delivery for patients with osteopenic syndrome and osteoporosis.

Research materials and methods

Research has been conducted in Central city clinical hospital. 325 selected patients in age of 30 to 74 have been examined by clinical and densimetric tests.

Results and discussion: study of bone tissue condition by patients' visits allows to define that osteoporosis and osteopenia prevalence is accordingly 9% and 55.1% among men, and 36.8% and 40.5% among women. It is necessary to note that most sudden decreasing of bone tissue density among women in age group of 50-59 years, probably because of menopause.

As showed our results there is reliable correlation of ultrasonic densitometry results with risk factors among men. There are age ($r = 0.249$, $p < 0.002$), hypodynamia ($r = 0.577$, $p < 0.001$), smoking ($r = -0.303$, $p < 0.009$), alcohol abuse ($r = 0.581$, $p < 0.001$), traumas in the patient history (r-0.240, $p < 0.039$). Among women there are traumas among relatives ($r = -0.326$, $p < 0.002$), alcohol abuse ($r = 0.319$, $p < 0.008$), age ($r = 0.285$, $p < 0.022$), smoking ($r = -0.280$, $p < 0.007$), traumas in patient history ($r = -0.248$, $p < 0.016$).

For correct organization of osteoporosis specialized care it is necessary strong structure, effective directions of activity and control of performed work. In this regards development of action model for center of osteoporosis prevention became important issue because of problem decision on specialized care provision for patients with osteopenic conditions and osteoporosis. Activity of osteoporosis center consists three main parts – early diagnosis, timely prevention and treatment of patients with osteoporosis. One of the important goals of the center activity would be scientific researches. Results of these researches would be base for development clinical recommendations for patients and conducting of training courses on osteoporosis.

Currently ultrasonic densitometry room was organized in 2007 under the Central city clinical hospital (CCCH) in Almaty. Specialists of this room first time implement into clinical practice new in qualitative sense apparatus - ultrasonic densitometry Sunlight Omnisense 7000. This apparatus helps to make instrumentation of peripheral bone tissue strength. As CCCH is multiple-profile clinic there are developed principles of interdisciplinary cooperation and continuity in treatment of patients with osteopenic conditions and osteoporosis.

With purpose of early diagnosis of osteopenic syndrome and osteoporosis there was developed algorithm of prenosological diagnostic and treatment of osteoporosis. There should be account three main indicators to define people prone to osteoporosis. There are clinical presentations of osteoporosis, results of bone tissue strength examination among patients having risk factors for osteoporosis. There should be account also age and heredity.

Results of conducted research allowed to implement practical model of medical specialized care in Almaty CCCH conditions. If reducing of bone tissue strength is found and adequate treatment is prescribed so examination should be conduct in three, six, twelve months, and then every year. Conducting measurements should be under the control of high-qualified specialists in osteoporosis, who will plan and coordinate activity of center on osteoporosis using of developed prevention programs.

Thus, received data confirmed timeliness of presented problem and necessity of opening of specialized rooms on care provision for patients with osteopenic syndrome and osteoporosis in other regions of the country.

DEVELOPMENT OF STANDARDIZATION METHOD IN TECHNICAL AND TECHNOLOGICAL EQUIPPING FIELD OF HEALTH CARE ORGANIZATIONS

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Organization-functional matrix of medical organizations technical equipping standards' forming is presented by following structure. First of all, standard is regulating document describing multi-level, multi-complex process of its development and realization at all stages in aggregated rates. This model is constructed on typical structures (data) demonstrating general characteristics, composition, technical equipment, and technological accompaniment, standard's effectiveness, standard's organization-executive structure.

Technological accompaniment relates to standard's compliance to protocols of diagnostics, treatment, rehabilitation, and prevention; conditions and term of exploitation, control and changing of equipment, and also its amortization; standard's calling and conditions of its realization, objects and subjects of their using.

Standard's effectiveness defines list of expected information criteria, its accordance to new knowledge, modern requirements to materials, models, means and facility, strong levels of implementations and its further using, profitability, productiveness, quality of standard's realization.

One of main matrix elements is organization-executive structure (legislative recommendations of standards, experts' group organization). In general organization-functional matrix of standard is key mechanism in managerial process of medical care quality.

Moreover there is developed complex of recommendations to improve legislation base of technical and technological equipping of medical organizations. It is expedient to review structure of minimal standards, include such positions as high manufacturability, specificity, multi-functionality that accounts accordance level of technical aspects to technological process. For this should be strong financing order.

Today's table of equipment should be changed for passport of technical equipment of health care organizations, when differential approach to standards' forming should be accounted. Assured volume of free medical care should be provided accounting to growing needs of population in medical services; this system should be flexible and dynamic.

Special attention should be devoted to adequate informational support of technical and technological block in filed of new technologies in treatment diagnostic, rehabilitation and prevention that require strong monitoring and evaluation of accordance of approved standards to real existing in health care organizations.

As integral index it is offered to use sum of expenses due to base expenditure indicators (cost of new equipment, exploitation and amortization expenses, expiration date, and coefficients of reliability and safety of equipment). In other words this is assessment of productivity, effectiveness and using of equipment that will relates in the result to quality of medical care. For this there is necessary forming mathematical base of whole health care organizations technical equipping process.

MEDICAL SECURING PROBLEMS ON THE RAILWAY TRANSPORTATIONS IN KAZAKHSTAN

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Results of the research of medical securing provision on the railway transportations in Kazakhstan defined important problems in this field. Consequences of conducted "restructuring" of railway medical service in the country followed to losing of well-organized stable working structure. Non evidence based "reforms" leaded to complete chaos in medical care providing to railway workers at the all levels. This could bring to transportation threats as in the country so in the international railway communications.

Health care system on the railway transportation is not only infrastructure that decides medico-social problems of health protection of railway workers and their families, but also is essential part of transportation process.

Results of the researches show necessity of decision of medical service problems for railway workers: functioning own railway policlinics, providing in-patient care at the quota base in the territorial hospitals and republican clinics. Decision of these could be organization of first unique modern structure called “Medical service”. Labor peculiarities and requirements to health level among railway workers determine main characteristics of the health care field.

Thus:

1. For decision of medical securing problems on the railway transportation it is necessary to organize “Medical service” structure with broad net of policlinics, health points, FAPs and other units along the railway track.
2. To provide modern medical equipment and well-trained medical workforces of different specialties.
3. Hospital care for patients is recommended to provide on quota base in territorial and republican clinics.
4. It is necessary to organize common centralized computer network for realization of control after health of railway workers and their families.
5. To organize psycho-physiological service allowing to increase professional security of people directly relating to traffic working that would provide security on the railway transportation.

HEALTH SAVING TECHNOLOGIES IN EDUCATION OF MULTI-PROFILE GYMNASIA # 79

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In 2002 Almaty healthy lifestyle forming center has developed program on Healthy lifestyle and education for general schools. The Program is very important for today’s Almaty as 14.9% of school age children are smoking, 33.4% abuse alcohol. Due to medical examination of school age children from 12 through 18 years in 2006-2007 from each 1000 pupils 784 are sick. There are 22% of neurological diseases, 15.5% of musculoskeletal diseases, 14.5% of eyes and their appendages.

Health saving technologies in Gymnasia # 79 is including:

1. System of psychology-pedagogical accompaniment.
2. Subject education form in 4-th grade of primary school. It is known when children cross from primary to secondary school this is stress for them, progress in studies became lower, and children more often get ill. In this regards it is implemented partly subject education form already in 4-th grade of primary school.
3. Paired classes in high-school.
4. Dynamic pauses. These pauses are during classes. Children during these pauses could walk and rest; make simple respiratory and physical examinations.
5. 26 free hobby groups, sport sections and optional classes are functioning in gymnasia.
6. Since 2001 in gymnasia there are working “drug-posts”. This is informal unions of pupils on healthy lifestyle advocacy and promotion, prevention of bad habits.
7. There is free group of prolonging day for pupil who stay longer at school after classes.
8. Big attention is given to nutrition. Breakfasts and lunches are free for 1-4 grades. Children from group of prolonging day get 2-times nutrition.
9. There are medical and nursing rooms. There activity on health education among children and their parents, system medical and nursing examination of children.
10. There is room for physiotherapy exercises. Groups are forming due to diseases – children with musculoskeletal diseases, internal diseases, obesity, respiratory diseases

and others. There are 10-12 children in the group. For each group and even for each child there is developed complex of special physiotherapy exercises. Recommendations on lifestyle also are given for children and their parents.

Thu, healthy school provides conscientious participation of pupils, teachers, and parents in forming of healthy lifestyle. In health education activity there is very important cooperation between school, family, medical workers, and society.

ANALYSIS OF HIV AWARENESS OF SEX WORKERS IN KOSTANAI DUE TO PATROL EPIDEMIOLOGICAL SUPERVISION

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In Kostanai HIV has been registered since 1993. HIV in Kostanai oblast is on stage of concentrated development. This means that HIV is not get prevalence among general population, only in risk groups.

Patrol epidemiological supervision has been provided since 2004 every year in vulnerable groups of population due to Ministry of Health order (Prikaz) to determine HIV prevalence. Results of this supervision are used in HIV prevention programs' development.

In 2007 100 sex workers providing sex services on tracks and streets during last 6 months participated in the survey. Persons above 25 ages old were 66%, under the 25 years – 34% accordingly. 49% from them had secondary and secondary-professional education, 36% - primary education, 8% - higher education, 7% - without education. 81% do not work or study, 2% are students, 16% have work, 1% work and study at the same time. 70% of sex workers were European nationality, 25% - Kazakh, 5% - other nationalities. Results of serological tests: HIV prevalence – 3%, hepatitis C – 41%, syphilis – 40%, 16% - had negative results. Results of behavior study: 10% use injection drugs, 51% has chance sex partners, 49% - continual sex partner. 42% have symptoms of STDs, 9% did not get medical assistant, 9% came to STD treatment and prevention center, 10% treated themselves, 4% get care in "friendly rooms", 7% have come to gynecologist, 1% turned to private doctor, and 1% asked friends about help. 49% of sex workers noted right HIV preventive measures.

Conclusions:

1. Coverage by prevention program of sex workers increased in 2 times in comparison with 2006.
2. HIV prevalence among sex workers reduced also in 2 times, and also hepatitis C from 45% in 2006 to 41% in 2006, increased syphilis prevalence from 34% in 2006 to 40% in 2007.
3. Increased awareness of sex workers on STD and HIV in 1.3 times.
4. Decreased percent of sex workers using injection drugs from 16% in 2006 to 10% in 2007.

Recommendations:

1. Patrol epidemiological supervision is very useful tool in monitoring of STD including HIV prevalence in risk groups.
2. It is necessary to organized quality work on diagnosis and treatment of STDs.

METHODOLOGY OF STUDYING OF SOCIALLY-PSYCHOLOGICAL BASES OF HEALTH AND NEW NEEDS OF THE POPULATION IN PUBLIC HEALTH SERVICES OF KAZAKHSTAN

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Socially-psychological aspects of population health become more and more popular in scientific-research society because of quality of life improvement and social significant and psycho-somatic diseases prevention. It is obvious that healthy behavior depends on psychological condition of person.

Purpose of this research became scientific basis and development of socially-psychological ground of health and new needs of population in public health services in Kazakhstan.

Research is planned in 5 stages by using of following methods:

1. Informational analysis of legislative documents, statistical materials, scientific research literature. Base on this method there will be studied prevalence and dynamic of psych-somatic and social significant diseases in Kazakhstan during 2003-2008.
2. Social method – there will be provided survey among population and medical workers to indicate psychosocial status. At the same time there will be conducted statistical analysis of level, types and volume of medical services for population.
3. Forecasting and risk assessment of disease development.
4. Factorial analysis and experts' analysis will define mechanisms of responsibility increasing for health among population that help to develop organizational methodological approaches to medical psychological services improvement in public health of Kazakhstan. SPSS program will be used for statistical analysis.

Thus, selected methodology will allow to define that in population health forming at the current time important meaning has not only mental health of population as consumers but also health care providers. Results of this research will be evident base for organization of medico-psychological service in public health with accent to psychological prevention, diagnostics, rehabilitation of population and personal skills training of medical workers.

REPRODUCTIVE HEALTH NEEDS OF THE YOUNG GIRLS IN BISHKEK

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Correct health education organization and prevention of gynecological diseases among young girls are very important issues of the today's health care system. It is known that in adolescent period there is forming of sexual consciousness, gender-role behavior, psychosexual orientation, and lifestyle, which will influence to women health during all her life. At the same time conscious attitude to health is not still formed among young girls, and psychological and physical acceleration leads to early starting of sexual relations, early pregnancies and following after this medical and social-economical problems. Main problems for adolescent health besides reproductive health are unhealthy behavior, insufficient and irrational nutrition, bad habits and low physical activity.

With the purpose of estimation of reproductive potential, general and gynecological morbidity, physical development characteristics and contemporary tendencies of reproductive and sexual behavior the complex medical examination and anonymous questionnaire of 188 senior schoolgirls in Bishkek was conducted. The findings are the high level of somatic and gynecological sickness rate among adolescent girls, in structure of which the prevailing part consists of menstrual cycle disturbance, frequent acute respiratory virus infections, caries, and headache. One fifth of girls have insufficient height and the tierce has insufficient weight. 10.8% of respondents have early sexual debut, the tierce of them has more than 1 sexual partner.

The adolescents are not well informed about methods of contraception. Moreover they also have not information about services where they can come with their problems.

Due to study's results, most of the adolescents have a positive attitude to sexual education programs at the schools. Currently condition of social economical transformation and health care reforming in Kyrgyz Republic requires from adult society to admit adolescents' right for independent defining of their sexual behavior, to give them freedom for information and accessibility to contraception methods.

DEVELOPMENT OF QUALITY CONTROL CHART FOR HIV IMMUNE-ENZYME ANALYSIS

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HIV/AIDS epidemiological situation in the Republic of Kazakhstan is not positive. Progressive total rate for January 1, 2008 9378 (54.0 per 100 000 populations) HIV infected are registered in the republic. Most prevalence is registered in Almaty 164.4 per 100 000 populations, Pavlodar oblast – 133.7, Karaganda oblast – 103.5. HIV prevalence among children under 14 years is 5.1 in the republic, increasing this rate was in South Kazakhstan where prevalence rate is 20.9. High prevalence of HIV among children under 14 years is in Karaganda oblast – 8.8 per 100 000 children.

In Kostanai HIV has been registered since 1993. HIV in Kostanai oblast is on stage of concentrated development. This means that HIV is not get prevalence among general population, only in risk groups. Peak of morbidity is noted in 2003. In this regards in Kostanai oblast there is strength and increasing tests for HIV among population.

In Kostanai oblast center of HIV/AIDS prevention HIV diagnostics is conducted by general immune-enzyme analysis method. To monitor quality of laboratory HIV diagnostics there is held laboratory quality control of conducted tests Research and calculations conducted due CDC methodology on laboratory diagnostics quality control of HIV tests.

Conclusions:

1. Laboratory quality control is part of the system approach to total laboratory diagnostics quality control.
2. Development and implementation of control chart on laboratory quality control process confirm reliability of HIV test results.

INJURY AMONG ELDER PEOPLE

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Injury is one of the main problems on governmental level because of it is reason of population premature mortality and disability, big economical damage, decreasing of quality of life. All this allows talking about nowadays' "trauma epidemic".

In the Republic of Kazakhstan in 2006 number of injuries was 3813.4 per 100 000 of population that is less than in 1990, when it was 5204.8 per 100 000 of population. At the same time mortality from injuries in 2006 was 150.2 per 100 000 of population and it was more than in 1990 – 103/5 per 100 000 of population for 45.6%. High rates of injury mortality in 2006 were in Pavlodar oblast – 223.1; Karaganda oblast – 210.1; Akmola oblast – 199.3 per 100 000 of population. Almost 25% of injuries are among rural population. This shows necessity of measurements on injury monitoring and prevention in the country.

Injury is also one of the biggest problems in public health with the highest burden on the young, elder people and people living in the most deprived circumstances. At the same time meaning of this problem is underestimated. Living conditions, attitude to life influences to psychosocial convenience of person very much. These problems become stronger when people stay elder.

Main reasons of injuries among elder people are falls and traffic accidents. About 30% of people over 65 years have injuries because of falls; this rate is increasing with age. Medical care is needed in 20% injury cases, and 10% result in fractures.

At the same time, native and abroad literature usually demonstrates issues of injury statistics, and does not provide algorithm of injury prevention. Although there are positive social and economical changes in the country live and there are a lot of activity on injury screening and treatment, but also there are still few researches in injury prevention issues among elder people. Most of the papers have clinical core, but there is almost no papers on injury determinants' study, assessment of their influence extent to injury. Main directions of injury prevention quality improvement should be effective primary health care, health education, and environmental health services.

PROBLEMS OF ANALYSIS AND ASSESSMENT OF MEDICAL ORGANIZATIONS ACTIVITY

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Problem of effectiveness analysis and assessment of medical organizations' activity is one of the priorities and at the same time is not enough studied problem.

Nowadays, there are developed indicators defining quality of general practitioners' work, to assess results of medical organization activity and population health there is suggested to realize group division of similar type organizations. There is developed complex of 15 indexes that oriented to results of system not to the process. To base this process there is used different statistical methods as standardization, median, and average value and others. Some authors suggest to use system of indexes and/or integral indexes allowing to evaluate medical organizations' activity in general. So, there was conducted selection of indicators and by expert method defined meaning of these indexes. Selected indexes were divided to 2 blocks: resources'

indexes and medical organizations' activity indexes. Coefficients of accordance to standards and coefficient of effectiveness was accounted by mathematical methods.

Integral assessment of medical care quality due to final results should include following elements:

1. Average annual rate of each indicator changing.
2. Rating assessment of indictor importance.
3. Weight value of each indicator in their general amount.
4. Mark assessment of each indicator.
5. Sum assessment of all marks.

Sum of marks -100 assessed as excellent, sum of marks less than for 10% - satisfactory, sum of marks less than for 15% - as unsatisfactory.

Thus, system of national statistics far and way could be big base in health and health care management. Even simple methods of mathematical analysis allow defining facts and relations of status and dynamics of population health, getting different prognosis and as a result developing system of effective managerial decisions.

IMPORTANT PROBLEMS OF INFANT MORTALITY
(Literature review)

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Infant mortality is one of the demographical factors that demonstrate country development level and its economical and social changes accumulating education and culture level, environmental pollution, access to medical services, and prevalence of material welfare in society. Due to World Health Organization data about 5 mln newborns are died every year and 98% of them are in developing countries. To beginning of XXI century infant mortality level in Kyrgyz Republic was in 5-7 times more than in developed world countries. In 2006 this data in Kyrgyzstan was 28,2%o.

If analyze infant mortality by periods of child lives it is possible to get full understanding of quality and effectiveness of obstetric-gynecological and pediatric service activity.

Reasons of neonatal mortality especially in developing countries difficult to define partly because of many of these cases was happened in domestic conditions without monitoring of medical personnel and newborns have no diagnostic symptoms of diseases.

Infection diseases, asphyxia in labours, prematurity are the main reasons of newborn mortality in the world. Other reasons could be lack of medical workforces, organization defects of medico-social care, deficiency of statistical accounting of losses. For reducing of infant mortality rate it is necessary to conduct serious medico-organizational analysis of current situation.

Main reasons of mortality of children on first year of life are respiratory and infection diseases. And also mortality rate from diarrhea is maximal on the first year of life. From 2345 children who died in 1999 in Kyrgyz Republic, 37.7% died from respiratory diseases, 31.1% from perinatal diseases, 19.7% from infection diseases, 3% from congenital anomalies.

Social and cultural factors of infant mortality includes poverty, illiteracy, low social status of women, lack of political power of women and children, gender discrimination, fatal traditions and habits of people. Also, other reasons are lack of clean water, hygienic norms and sanitarian conditions, low access to medical care, lack of resources and appropriate medical equipment and medications. Health condition of mothers also determines poor health of infants.

Big influences to infant mortality have such factors as age of women, health status, labour parity, professional insalubrity, and bad habits. Frequent labours with short intervals (up to 2 years) are risk factors as for mother so for newborn.

Different literature resources demonstrate that smoking and alcohol abuse cessation would allow reducing risk of infant mortality for 56.4%.

It is known that alcohol influences to health of parents and children. During family alcoholism there are very frequent dead births, spontaneous miscarriages, prematurity, pre-natal and post-natal development disorders.

Thus, only using of complex of measures with target program development, it is possible to reach essential reducing of infant mortality in Kyrgyz Republic.