

Journal of Medical Safety

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2004 Meeting's Program and Abstracts

(E-version)

Official Journal of 'Union of Risk Management for Preventive Medicine'

(URMPM Special Conference in Latin)

Date: September 25-27, 2004 Place San Jose, Costa Rica

The Conference homepage is as follows.

<http://plaza.umin.ac.jp/~jsrmpm/CRConf2004/index.html>

The program has been available in the following URL.

<http://plaza.umin.ac.jp/~jsrmpm/CRConf2004/main.html#topics>

URMPM Special International Conference in Latin

"Advances in Health Risk Management Strategy and Decision Science"

www.jsrmpm.org/CRCConf2004

Period: August 25 morning – August 27 noon
Place: The conference hall, Congress Center of the Investigation City,
The School of Nutrition, The University of Costa Rica,
San Jose, Costa Rica

Program and Abstracts

By

Union of Risk Management for Preventive Medicine (URMPM)

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Program (August 25, 2004)

Place: The conference hall, Congress Center of the Investigation City,
The School of Nutrition, The University of Costa Rica

Opening Remarks

(August 25, am 8:20-8:30) Prof. Leda Muñoz Garcia
Former Vice-Rector, The University of Costa Rica
Honor President of the URMPM Special Conference in Costa Rica.

(August 25, am 8:30-8:40) Prof. Ryoji Sakai
Swiss Federal Institute of Technology, etc., URMPM Chairperson.
President of the URMPM Special Conference in Costa Rica.

Greeting Address

(Chairperson) Prof. Leda Muñoz Garcia, Costa Rica.

(August 25, am 8:40-9:00) Rector & Prof. Yamileth Gonzalez
The University of Costa Rica.

Welcome Addresses

(Chairperson) Prof. Ryoji Sakai, Japan.

(August 25, am 9:00-9:10) Prof. Tadanori Inomata
Ambassador, Japan Embassy in Costa Rica,
Former Prof. of Kobe University, Japan)

(August 25, am 9:10-9:20) Prof. Viacheslav K Ilyin
Russian Academy of Science, Moscow, Russia

(August 25, am 9:20-9:30) Prof. Banwari L. Meel
President, African Society of Risk Management for Preventive Medicine
University of Transkei, School of Medicine, South Africa

Memorial Address (1)

(Chairpersons) Prof. Alcira Castillo Martinez, Costa Rica.

(August 25, am 9:30-10:30) **Dr. Maria del Rocio Saenz Madrigal**
Health Minister, Costa Rica Government

Topic: Risk Management Strategy for Preventive Health Control.

(August 25, am 10:30-10:45) Coffee Break

Memorial Address (2)

(August 25, am 10:45-11:15) Prof. Leda Muñoz Garcia (Former Vice-Rector, The University of Costa Rica), Prof. General Director & Prof. Patricia Sedo Masis (University of Costa Rica, School of Nutrition), and Dr. Mario Leon (Director of EBAIS program (38 centres of Health in Montes de Oca and Curridabat), University of Costa Rica)

Topic: Promotion of Health and Prevention – Challenge for the Training of Nutritionists.

Title: PROMOTION OF HEALTH AND PREVENTION: CHALLENGES FOR THE TRAINING OF NUTRITIONISTS

Author(s): *Leda Muñoz Garcia Ph D¹, Patricia Sedo Masis M Sc.¹, Dr. Mario Leon²

Affiliation(s): 1. School of Nutrition, University of Costa Rica.

2. Director of EBAIS program (38 centers of Health in Montes de Oca and Curridabat)

The School of Nutrition at the University of Costa Rica is the main training and research institution in Human Nutrition in Costa Rica, with an emphasis on health promotion and prevention. The health and education conditions of the country have evolved positively and in a significant way from the 1940's, with the enforcement of the Social Guarantees Law, and other strategies, resulting in a departure from the traditional situation prevailing in the other Central American countries. To illustrate this point, the Human Development Index presented yearly by the United Nations rates the country in the 43th position, out of 177 countries examined, below only to Chile and Argentina of all the Latin American countries. However, changes in life styles and intense migration processes, together with increased life expectancy, decreased fertility rates, among other factors, have defined an epidemiologic profile in which traditional infectious diseases and nutritional deficiencies, coexist with chronic degenerative diseases and malnutrition due to excesses (energy, fats, etc).

As a result, the two main causes of mortality are cardio vascular diseases and tumors, with gastric cancer representing the first cause within the tumor category, and the highest prevalence in the world. Obesity, as an associated co-morbidity factor is present in 80 % of the main pathologies conforming the morbi-mortality pattern of the country.

This represents a challenging scenario for health professionals, requiring a multidisciplinary approach to health and disease, in which the communities and individuals should actively participate, to build healthier communities, to manage risks appropriately and to promote healthier life styles. The Ministry of Health has defined those as priorities in the National Food and Nutrition Policy for the 2003-2006 period.

In order to prepare the future professionals with the best possible training to respond to this panorama, the School of Nutrition has defined four strategic challenges that should guide the Training and Research Programs.

- 1) An integrated health approach to a population living in a society with high violence levels, insecurity, imported lifestyles that negatively affect food consumption patterns, physical activity levels, smoking and use of drugs, and that promotes individuality and weakens cultural identity, having a vision of health based on disease and pharmacological drugs.
- 2) The prevalence of multiple pathologies coexisting in the same individual or groups, with clinical signs and treatments overlapping and significantly affecting the quality of life, specially if health services are not opportune and integrated.
- 3) Nutritional strategies should be analyzed together with the food and education problems, to favor positive changes in groups and persons.
- 4) Inter-institutional coordination is required to effectively monitor food security; epidemiological changes and nutritional status of the population, and to evaluate the social and health impact of specific programs such as complementary food programs.

The University, as a center of knowledge generation and professional training, has a strategic role to play.

Educational Lecture (1)

(Chairpersons) Prof. Patricia Sedo Masis, Costa Rica.

(August 25, am 11:15-11:45) Prof. Ryoji Sakai
URMPM Chairperson, Swiss Federal Institute of Technology, etc.

Topic: Safety Sciences in Medicine.

Educational Lecture (2)

(Chairperson) Prof. Patricia Sedo Masis, Costa Rica.

(August 25, am 11:45-pm12:15) Dr. Victor Alvarez Porras
Teleclub, Channel 13, Costa Rica

Topic: Health Education Starting from Infancy as a Fundamental Element in Preventive Medicine for Developing Country. Spanish*

Author(s): Dr. Victor Alvarez Porras
Teleclub, Channel 13, Costa Rica

For the last 30 years I have been a television medical talk show host on shows that ran for 20 minutes each week – a 10 minute talk on a particular topic and 10 minutes to answer questions via telephone call-ins from viewers. This experience coupled with my 35 years in pediatric practice have led me to conclude that one of the greatest problems in the field of preventive medicine is the lack of information available to the general public. This is true even in fields that should long since have been addressed, especially by the beginning of the 21st century.

Symptoms, diagnosis, risk factors, treatment and prognosis of diseases in third world countries are all exceedingly well documented in studies and well known to those charged with public health. This, however, is not true of the general public. They are not informed regarding basic knowledge about their state of health, even when the symptoms are evident and of course, even less so with regard to how to prevent the development of disease.

In spite of all the economic effort expended, the situation has not improved as anticipated over the last 50 years. This is due in large measure to the ignorance of a vast percentage of the population, particularly in the lower economic classes, but the privileged classes are not exempt either. A 96% literacy rate does not directly correspond to 96% eradication of ignorance. I don't believe that the solution lies in building more hospitals, buying more medicine or even in more health professionals. These solutions are applicable once the onset of disease has occurred, a far more critical level than we wish to address at this point. In fact, what we are seeking is just the opposite – to rid us of the necessity for these services by supplying populations with the instruments necessary to stop problems before they start. Clearly the solution lays in striving for a well-educated population with regard to health matters.

I feel that one of the solutions most at hand with regard to methodology, would be to incorporate preventive health policies within the educational systems already in existence in our countries and further reinforce them. We must make it possible for children to learn from infancy, that they are the owners of their own body and that, if they are not sufficiently familiar with how their body works and what they need to do keep it at its best, they will suffer dire health consequences throughout their lives. One way to take best advantage of educational opportunities already available in our educational systems, would be to include health education within all required educational programs at all levels: day care, preschool, primary school, high school and even the university. Health education should be made available for students, as well as teachers and parents.

The challenge today is to transmit the greatest amount of useful information to our populations with regard to health care in our daily lives. We will look at some practical situations where this has been successfully achieved.

Business Meeting

Extended Business Meeting by the URMPM Society Presidents and all new executive members. – Chaired by R. Sakai.

(August 25, pm 12:15- 13:00) At Congress Center.

Place: Meeting room in the Investigation City in the University of Costa Rica

(August 25, pm 12:15-13:00) Lunch

Keynote Address (1)

(Chairpersons) Dr. Victor Alvarez Porras, Costa Rica.

(August 25, pm 13:00-13:30)

Prof. Viacheslav K Ilyin^{1*}, Kostrov S.V.¹, Dr. Lauriniavichius K.S.², Dr. Starkova L.V.², Dr. Chuvilskaya³, Dr. Velikodvorskaya G.S.³, Ogorodnikov I.G.⁴.

1. Russian Federation State Research Center – Institute for Biomedical Problems, Russian Academy of Sciences, Moscow, Russia
2. Institute for Molecular Genetics Russian Academy of Sciences, Moscow, Russia
3. Institute of Biochemistry and Physiology of microorganisms, Russian Academy of Sciences, Puschino, Russia,
4. Company “Ogorodnikov and Partners”, Moscow, Russia

Topic: Biodegradation of Plant Residuals and Cellulose Wipes Using Microbial Associations and Strains.

Title: BIODEGRADATION OF PLANT RESIDUALS AND CELLULOSE WIPES USING MICROBIAL ASSOCIATIONS AND STRAINS

Author(s): Ilyin V.K., Kostrov S.V.*, Lauriniavichius K.S.**, Starkova L.V., Chuvilskaya**, Velikodvorskaya G.S.*, Ogorodnikov I.G***.

Affiliation(s): Russian Federation State Research Center – Institute for Biomedical Problems, Russian Academy of Sciences, Moscow, Russia / Institute for Molecular Genetics Russian Academy of Sciences, Moscow, Russia / Institute of Biochemistry and Physiology of microorganisms, Russian Academy of Sciences, Puschino, Russia / Company “Ogorodnikov and Partners”, Moscow, Russia

The waste management strategy for the future should meet the benefits of humanity safety, respect principals of planet ecology, and compatibility with other habitability systems. For these purpose the waste management technologies, relevant to application of the biodegradation properties of bacteria are of great value. Biological treatment method is based upon the biodegradation of organic substances by various microorganisms.

The objectives of our study were: to evaluate effectiveness of microbial biodegradation of vegetable non-edible residuals and disposed cotton-made hygienic wipes, using artificial inoculum; to study peculiarities of biogas, possibilities to optimize or to reduce the share of methane.

First phase of investigations concerned degradation of non-edible residuals using selected bacterial association, used as inoculum for launching of substrate biodegradation.

The diminution rate of organic gained 76% from initial mass took part within 9 days of fermentation. The biogas production achieved 46 l per 1 kg of substrate. The microbial studies of biodegradation process revealed following peculiarities: (i) gradual quantitative increasing of *Lactobacillus* sp. (from 103 to 105 colony forming units (CFU) per ml); (ii) activation of *Clostridia* sp. (from 102 to 104 CFU/ml); (iii) elimination of aerobic conventional pathogens (*Enterobacteriaceae*, *Protea* sp., staphylococci). Chromatography analysis revealed constant presence of carbon dioxide (up to 90.9%). There were traces of methane (0.1-0.4%).

However, when we optimized the methane production in "boiling layer" using methanogenic granules, the amount of methane in biogas reached 80-90%.

Other investigations concerned biodegradation of disposed cotton-made wipes used for personal hygiene. The investigations consisted of 2 parts. First – active cellulases were chosen. The average diminution rate of dry mass, however, did not exceeded 15%. Then, while cocultivation of *Clostridia* termophilic strain, which produced cellulose, the substrate dry mass sufficiently decreased (up to 90%) . The obtained solution of olygosaccarides was a good substrate for methanogenic bacteria.

The results of the study are applicable for optimization of environmental health as well as for life support of people in artificially modified environment (spaceships and other confined habitats).

There are evidences, that specifically modified (treated by hard UV or by neutron stream) liquid media can optimize cultivation of microbes. The current investigations are directed to learn the possibility of liquid substances, treated this way, to accelerate biodegradation of substrates.

Session (1)

Precautionary principle in health risk management strategy.

(Chairpersons) Prof. Viacheslav K Ilyin, Russia.

(August 25, pm 13:30-13:55)

Topic: Usefulness of a Program: “Strengthening Public Health in Costa Rica”
President, Ronald Melendez Arce (Director of Board, National Council for
Scientific and Technological Research; CONICIT, Costa Rica)

(August 25, pm 13:55-14:20)

Topic: Physical, Chemical, and Micro-Biological Risk Management in Food
Industries of Costa Rica. Spanish*
General Director & Prof. Floribeth Viquez Rodriguez (University of Costa
Rica, Centro Nacional de Ciencia y Tecnologia de Alimentos, Costa Rica)

(August 25, pm 14:20-14:45)

Topic: SARS : A Wake-up Call for Medical Education!
Dr. A. Azim Majumder (President, Bangladesh Society, University of
Science Malaysia, Malaysia)

(August 25, pm 14:45-15:10)

Topic: Health promotion, Health Protection and Preventive Medicine
Education at Secondary and University Level in Slovakia with Impact
on Praxis in Primary Health Care.
Dr. Kvetoslava Rimarova (Institute of Histology and Embryology,
Faculty of Medicine, Kosice, Slovakia)

(August 25, pm 15:10-15:35)

Topic: Risk Management of Chronic Life Long Infection of Helicobacter
Pylori in the Tropics and the Subtropics – Learn from the
Investigation in Tanzania and Dominican Republic.
Dr. Kazuo Aoki (Oita University, Japan), Prof. Junichi Misumi (Oita
University, Japan), Dr. Mercedes Castro (Dominican Republic), Dr.
Mildre Disla (Dominican Republic), Dr. Paul Kihaila (Tanzania), Dr.
Thomas Nyambo (Tanzania).

(August 25, pm 15:35-16:00) Session Discussion

(August 25, pm 16:00-16:15) Coffee Break

Title: USEFULNESS OF A PROGRAM: “STRENGTHENING PUBLIC HEALTH RESEARCH IN COSTA RICA”

Author(s): President, Ronald Melendez Arce

Affiliation(s): Consejo Nacional para Investigaciones Científicas y Tecnológicas (CONICIT)
(President, Board of Directors, National Council for Scientific and Technological Research (CONICIT))

Public health is a recurrent topic in the public policy agendas of the Latin American governments. Without doubt, programs implemented in support of the third world countries contribute greatly to the scientific and technological development of the countries.

Accordingly, the National Council for Science and Technology Research executed the program “**Strengthening public health research in Costa Rica**”, which has been financed with resources from the Pan American Health Organization (PAHO), from the Ministry of Science and Technology (MICIT), through the Incentives Fund, and from CONICIT. The program started in February, 2002, received cooperation from Dr. Rodrigo Zeledón Araya, former president of CONICIT’S Governing Board and researcher in the field of public health, in order to achieve a good program design and improved implementation. Dr. Zeledon’s observations, comments, and recommendations were undoubtedly very valuable.

The principal objective of the program was to strengthen the development of biomedical, clinical, and public health research in Costa Rica.

Thus, in coordination with the Ministry of Health, four public health priority areas in Costa Rica were defined, namely: **Health policies and reforms, Health systems and services, Disease prevention and promotion of health, environmental health.**

Resources were allocated to research on:

- Prevention of traffic accidents and family and community violence, in all manifestations
- Prevention and control of cervical cancer and tumors of high prevalence in the country, stomach cancer, prostate cancer, and breast cancer with emphasis on early detection, timely diagnosis and treatment.
- Prevention, control, and eradication of new, emerging, and re-emerging diseases: dengue, cholera, malaria, and other diarrhea, tuberculosis, sexually transmitted diseases, and Acquired Immunodeficiency Syndrome (AIDS), hantavirus, and leptospirosis.
- Prevention, control, and eradication of immunopreventable diseases and insertion of new vaccines in the basic vaccinations schedule. Adult vaccination
- Food communicable diseases
- Any Costa Rican citizen by birth or naturalization, embarked in a post-graduate program or working in the country in the area of medical sciences, would be eligible for financing. Two components were defined: research projects by post-graduate students (Component A) and collaborative research projects shared by national researchers and with others from countries of the region (Component B).

The research projects were executed over a period of no more than 24 months, with a maximum financial allocation of **US\$5 000,00 (Component A) and US\$10 000,00 (Component B).**

A **Scientific Advisory Committee** created specifically for the purpose, studied and made recommendations on the proposals. Said Committee received support from CONICIT for the evaluation of proposals and to define evaluation criteria and follow-up.

The CONICIT Governing Board or the Incentives Fund Commission members were jointly responsible of approving or rejecting the proposals, while taking into consideration the recommendations issued by the Scientific Advisory Committee.

Thus, this program was executed supporting 21 research projects, some of which are currently in their final stage, and today all are part of the experience accrued and a significant contribution to public health research in Costa Rica.

Title: MICRO-BIOLOGICAL, PHYSICAL, AND CHEMICAL RISK ASSESSMENT IN THE FOOD INDUSTRY OF COSTA RICA

Author(s): Fernando Aguilar & Floribeth Viquez*

Affiliation(s): Centro Nacional de Ciencia y Tecnologia de Alimentos (CITA), San Jose, Costa Rica

STUDY PURPOSE:

The purpose of this study was to evaluate risk assessment (physical, chemical and microbiological) in the Costar Rican food industry and put it in a numerical way so that it could be compared to an ideal.

MATERIALS & METHODS:

A representative sample of 87 companies (small, medium and large) from different food industry sectors was used. Data was evaluated using a tool developed by CITA, called "Diagnostico Tecnologico Cuantitativo" (DTC) (Quantitative Technological Diagnosis), based on Codex Alimentarius' regulations, which allows to determinate company's technological level. Each diagnosis was done by two food technologists trained on its use, in a visit on a normal operation day. The DTC consists of more than 700 variables, 150 of which are related to microbiological risk assessment, 44 to chemical and 38 to physical risk assessment. A 100% grade represents the ideal risk assessment and it means the enterprise has a full control on it.

RESULTS:

Accomplishment average of 52,0%, 49,5% and 48,3% were determined for microbiological, physical and chemical risk assessment.

DISCUSSION:

Microbiological risk assessment refers to company's ability to control any biological agent, or its metabolic products, that can represent a potential hazard to consumers; chemical risk assessment refers to its capacity to control any chemical substance present in food in a natural, intentional or accidental way that could be potentially harmful to consumer's health in a short, medium or long term; physical risk assessment refers to its capacity to control any foreign material that can cause choking, injury or any other health problem to consumers. Results show that overall risk assessment (microbiological, physical and chemical) is near 50 %. Also a 98,2% maximum accomplishment and a 11,3% minimum were observed. These results reveal the large variation in risk assessment of enterprises evaluated, small companies being the ones with the lowest grades.

CONCLUSIONS:

Results show the need for technical support programs mainly oriented to small and medium enterprises (SME's), in order to make them more competitive.

Title: SARS: A WAKE UP CALL FOR MEDICAL EDUCATION!

Author(s): Dr. Md. Anwarul Azim Majumder, Lecturer, Department of Medical Education & Sayeeda Rahman, PhD Student, Department of Pharmacology

Affiliation(s): School of Medical Sciences, Universiti Sains Malaysia, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia

The Severe Acute Respiratory Syndrome (SARS) epidemic has emerged to be a global public health threat and presented a number of medical education implications to be considered. The outbreak has disclosed the weaknesses of health care services to manage the disease as well as established the dedication of the medical profession to care for the sick – all these bring the health professionals in the limelight. Much has been discussed and debated about SARS since its outbreak, however, the role and importance of medical education to control and prevent it was not highlighted. As SARS is a relatively new medical problem, health care professionals should be trained adequately to prevent and manage the disease as well as educate the public about its transmission, management and prevention. Health professionals are central to managing and delivering health services. Even with adequate funds and resources, a country's ability to absorb them to fight against SARS or other deadly infections will be constrained without appropriate human resources for health. The paper discusses the various issues in relation to curriculum planning for SARS and any other novel infections.

Title: HEALTH PROMOTION, HEALTH PROTECTION AND PREVENTIVE MEDICINE
EDUCATION AT SECONDARY AND UNIVERSITY LEVEL IN SLOVAKIA WITH IMPACT ON
PRACTICE IN PRIMARY HEALTH CARE

Author(s): Rimarova, K.*

Affiliation(s): Institute of Hygiene, Faculty of Medicine, Košice, Slovakia

Study purpose: First part of the study is going to evaluate education for nurses, medical doctors and public health professionals in Slovakia with the question if offered teaching curricula are sufficient for the field of health promotion and health protection. The aim of sequel study the study was to evaluate Knowledge, Attitude and Practice approaches of primary health care teams in the field of health promotion and also to establish the needs for further health promotion training. The results from collected questionnaires gave a basic information about aspects of health promotion status in Slovak republic.

Materials and methods: The paper presents review about all preventive, social and public health teaching aspects in the education for nurses, medical and dental physicians, public health professionals. The schools for nurses and Medical faculties have compatible and equivalent criteria. The next questionnaires study collected questionnaires from the members of primary health care teams it means G.P.s, paediatricians and nurses. Data processing from this cross-sectional epidemiological study in 658 questionnaires with 17 questions or opinions KAP - (8 Knowledge, 6 Attitude, 3 Practice). Data processing was in software Epi-Info and results are in Excell.

Results: First group of questions for participants were about basic Knowledge from health promotion: health dimensions, vaccination, screening, prevention in hypertension, counting BMI index, definition of health education, steps in health promotion planning. Knowledge questions are quite sufficient in the both groups of university and non-university (nurses) educated workers.

The next group of questions is monitoring the Attitude and approach of health care workers to own health, about effect of health care, community development and health education. In this questions the proportion between attitude in physicians and nurses is has no significant differences.

Practice questions show a large problem where the physicians and nurses are not able to answer a question "why they cannot do more for health promotion". The answers given in the questionnaire do not give them a right explanation and for health promotion in the primary health care team. In the primary health care which has been first in process of privatization is a problem with preventive measures and their payment from the side of. In the KAP test analysis there are no age statistical difference, the primary health care workers were divided into 3 age groups (20-35, 36-49, 50 and more)

K - Knowledge questions show sufficient knowledge of prevention and health promotion among primary health care workers more expressed, of course, in the group of nurses also there are sufficient curricula on both university and secondary school level.

2. A - Attitude questions show higher preference of curative measures in the work of PHT, preference of health aspects in the community development and responsibility both physicians and patient for own health.

3. P - Practice questions show problem in the system of proportion between preventive and curative measures where is stressed the shortage of time to make a preventive measure and also a lack of education and legal gaps

Conclusions: The results of KAP test show also priorities, advantages and disadvantages in the education of health promotion which seems to be from curricula very sufficient but there is a lower practical output among nurses and physicians. There is need to base a new projects providing financial support for a training of health promotion which should improve situation in the Slovak Republic.

Title: RISK MANAGEMENT OF CHRONIC LIFE LONG INFECTION OF HELICOBACTER PYLORI IN THE TROPICS AND THE SUBTROPICS – LEARNING FROM THE INVESTIGATIONS IN TANZANIA AND DOMINICAN REPUBLIC

Author(s): Kazuo Aoki, Junichi Misumi, Mercedes Castro, Mildred Disla, Paul Kihaila, Thomas Nyambo.

Affiliation(s): Division of Preventive Medicine, Faculty of Medicine, Oita University, Japan

STUDY PURPOSE:

The purpose of this study was to determine basic precautionary measures to prevent a precancerous lesion for gastric cancer, chronic atrophic gastritis (CAG) in the tropics (Tanzania) and the subtropics (Dominican Republic). First, the prevalences of *Helicobacter pylori* (*H. pylori*) in the general populations of Tanzania, Dominican Republic, Japan and China were clarified in surveys on the upper intestinal diseases and gastric cancer done in 1991 and in 1996/1997. Secondly, we clarified some correlations between some factors related to socioeconomic status, living environments, education level, and health indicators, and the prevalences of CAG and *H. pylori* infection among these four countries.

MATERIALS & METHODS:

This study on prevalence of HP, CAG and serum gastrin values took place in both Japan in 1991, China in 1996/1997, Tanzania in 2002 and the Dominican Republic in 2001/2002 and was similar to our earlier studies (Aoki et al. *Environ Health Prev Med* 1996; 1:136-146. / *J Phys Fit Nutr Immunol* 2004; 14 (in press), and the same protocol was used. Also, the same method of random subjects selection and study design were used as described in our previous study. Briefly, after randomly choosing the subjects, those with chronic illnesses were excluded from the study (Aoki et al. *J Phys Fit Nutr Immunol* 2004; 14 (in press)). The numbers eligible for the study were: 859 from Japan, 1,741 China; 573 Tanzania and 1,215 Dominican Republic. The prevalences of *H. pylori* and CAG were age-adjusted to the World population in 1995.

RESULT:

The prevalences of *H. pylori* infection and CAG were 53.0% and 0.318, 77.6% and 0.109, 86.2% and 0.262, and 62.1% and 0.205 in Japan, China, Tanzania and Dominican Republic respectively. In Tanzania, the prevalence of *H. pylori* infection was extremely high (> 80%) in the age group less than 30 years compared to that (about 50%) in the same age class in Dominican Republic. The prevalences of *H. pylori* increased in Japan, Dominican Republic, China, and Tanzania in order. This tendency of prevalences of *H. pylori* infection agreed by and large with socioeconomic status, health index, and educational level, etc.

DISCUSSION:

The prevalences of *H. pylori* infection largely differed between Tanzania and Dominican Republic although both countries are located in the tropics and the subtropics. The prevalence of *H. pylori* infection was 86.2% in the general population in Tanzania compared to 62.1% in Dominican Republic. The prevalence rates for *H. pylori* were closely related with socioeconomic status among four countries. In four countries studied, the increase tendency of prevalence of *H. pylori* in Japan, Dominican Republic, China, and Tanzania was in inverse proportion to socioeconomic status, health index, and educational level. In general, this result was consistent with many previous reports in which, the prevalence of *H. pylori* infection varied depending on the ethnic group, the diffusion of purification plant and sewerage, sanitary condition, food hygiene, educational level, and socioeconomic status in each countries, and good status and/or condition for these items were in inverse proportion to the prevalence of *H. pylori* infection.

Although the mortality and prevalence for gastric cancer in the tropical Tanzania and Dominican Republic, are not high compared with those in Japan and China we are worried that the strong correlation between *H. pylori* infection and gastric cancer shown in our study, may in future lead to increase in mortality and prevalence of gastric cancer as the average life span increases in the tropics. Currently in the tropics they pay attention only to acute infectious diseases such as HIV and malaria but it is important to consider reducing mortality and prevalence for gastric cancer in twenty or forty years. Lack of funds makes prevention of all the above factors difficult in developing world and therefore high priority should be given to the improve education on food hygiene and simultaneously to expedite the development of vaccine for *H. pylori* infection.

CONCLUSIONS:

In developing countries like Tanzania where HP infection is high (~90%), it is expensive and difficult to do both gastrointestinal tract examination and treatment with expensive antibiotics and therefore development of a vaccine to prevent HP infection is a good alternative that should be considered by researchers.

Session (2)

Environmental and ecological risk management for health prevention.

(Chairpersons) Prof. Banwari L. Meel, South Africa. Dr. Kazuo Aoki, Japan.

(August 25, pm 16:15-16:40)

Topic: Impact of the Nickel Chloride in the Vital Functions and Heat Shock Proteins.

AFAIEDH NajLa.*1 ;ALLAGUI,M.S.1;CROUTE,F.2; SOLEILHAVOUP,J.2;
AYADI, F.M.3; GUERMAZI, F.4 and EL FEKI, A.1

- 1 . Labo.Eco Physiologie Animale, Faculté des sciences de Sfax -Tunisie
- 2 . Labo.de Biologie Cellulaire et Pollution, faculté de Médecine de Toulouse - Purpon-France
- 3 . Labo. Biochimie, Faculté de Médecine de Sfax- Tunisie
- 4 . Labo. Biophysique, Faculté de Médecine de Sfax – Tunisie

(August 25, pm 16:40-17:05)

Topic: Impact of Intermittent Fasting on the Sexual Functions of Nickel in the Rat.

Kamel JAMMOUSSI ⁽³⁾ Fatma Makni Ayadi⁽³⁾ Fadhel GUERMAZI ⁽⁴⁾, et Abdelfattah EL FEKI⁽¹⁾

- 1 : Labo.Eco Physiologie Animale, Faculté des sciences de Sfax -Tunisie
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- 4 : Labo. Biophysique, Faculté de Médecine de Sfax - Tunisie

(August 25, pm 17:05-17:30)

Topic: CADMIUM EFFECT ON MORPHOLOGICAL CHANGES OF JAPANESE QUAIL S' KIDNEYS

Drs. Tatiana Kimaková¹, Kamila Bernasovska², Beata Korenekova³
Kvetoslava Rimarova²

1. Institute of Histology and Embryology, Faculty of Medicine, Kosice, Slovakia
2. Institute of Hygiene, Faculty of Medicine, Kosice, Slovakia
3. Research Institute of Veterinary Medicine, University of Veterinary Medicine, Kosice, Slovakia

(August 25, pm 17:30-17:50) Session Discussion

(August 25, pm 7:00- pm 9:00) Banquet for the registered participants and the invited guests.

Title: IMPACT OF THE NICKEL CHLORIDE IN THE VITAL FUNCTIONS AND HEAT SHOCK PROTEINS

Author(s): AFAIEDH N.*1 ;ALLAGUI,M.S.1;CROUTE,F.2; SOLEILHAVOUP,J.2; AYADI, F.M.3; GUERMAZI, F.4 and EL FEKI, A.1

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Nickel chloride is considered as one of the most important pollutants of the environment since its atmospheric and terrestrial extension. On the other hand, it is the fact of being at the origin of numerous diseases.

As the objective is to prove that Nickel chloride could manifest the cytotoxic effects in the vital functions and upon the expression of heat shock proteins.

For that reason, Nickel chloride is administered (4mg/Kg) orally or through injection to male and female rats.

The exploration of the kidney function is achieved by the determination of urea and creatinine in blood and by histology of kidney .

The exploration of sexual function is achieved through the determination of sexual organ weight and by the determination of the testosterone level in the serum, and by ovary and testicular histology .

Our results show that Nickel chloride could have an impact on the renal function. This is illustrated by the decrease of the kidney weight and increase of the creatinine and urea level in blood, and by structural alteration of the cortical zone of kidney.

Concerning its impact on the sexual function, we observe for the male rats a decrease in the number and the mobility of spermatozooids , as well as the variation of testosterone level. For the female rats, the ovary histology shows a decrease in the number of follicular cells.

As far as the impact of Nickel chloride on the expression of heat shock proteins is concerned, we have found the inhibition of the expression of heat shock protein (HSP72) and the activation of the expression of other heat shock proteins (HSP73 and Grp94).

Our conclusion is that the Nickel chloride could react as an oxidative stress through its cytotoxic effects.

Title: IMPACT OF INTERMITTENT FASTING ON THE SEXUAL FUNCTIONS OF NICKEL IN THE RAT

Author(s): NajLa HFAÏEDH ⁽¹⁾, Mohamed Salah ALIAGUI⁽¹⁾, Françoise CROUTE⁽²⁾, Jean Pierre SOLEILHAVOUP ⁽²⁾

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Abstract:

A significant decrease of human fertility was revealed by recent epidemiological studies. This phenomenon could be in part due to the increasing environmental contamination by chemicals. In parallel, experimental and epidemiological studies indicated that some caloric restriction could improve both health and life span.

In this frame, our study was designed to compare the incidence of nickel poisoning, in combination with either ad libitum feeding or intermittent starvation, upon mating and reproduction in rats.

Wistar male and female rats were either fed ad libitum (N) or fed one day over two (intermittent fasting, J). Half of each group was then submitted to nickel poisoning.

We have used 200 rats male and female of "wistar" descent and bodily weight around 180 g for males and 130 g for the female. These rats are distributed in two groups : some nourished daily (N) and others nourished one day over two (J) during a month . At the end of this month, each group is it self split into two subgroups : one receiving tap water as drinkable water (group NO and JO). The other receiving the water enriched by the chloride of nickel at the rate of 100 mg NiCl₂/l (group NNi and JNi). The intermittent fasting goes on in parallel to treatment during 2, 4, 10, 16, 30 and 60 days. For the exploration of the MDA, the nickel is administered by injection at the rate of 4 mg NiCl₂/kg during 1, 3, 5 and 10 days.

Under our experimental conditions, nickel poisoning was found to induce an atrophy of the somniferous tubules, a decrease of spermatozoids counting with presence of abnormal.

Spermatozoids, and a decrease of plasma testosterone level. in female , a decrease in the number of mature follicles was observed.

Surprisingly, similar adverse effects, i.e., decrease of normal spermatozoids counting and decrease of plasma testosterone level, were observed in male rats submitted to intermittent fasting.

Analysis of inter-groups mating revealed that eggs implantation was much reduced both in nickel-treated and intermittently-starved rats. The lowest pregnancy index was found in NNi females mated with NO males. The lowest number of eggs implantation was observed in NO females mated with NNi males. Effects of nickel poisoning and of intermittent starvation were not found to be additive.

Increase of MDA level in NNi rats, and to a lower extent in JNi rats, suggests that nickel poisoning results in peroxidation at the level of uterus and ovaries.

Our results indicate that intermittent fasting and nickel poisoning decrease rat fertility by different mechanisms. We postulate that intermittent fasting could increase over expression of stress proteins which could partly protect the organism from the nickel-induced oxidative stress.

Title: CADMIUM EFFECT ON MORPHOLOGICAL CHANGES OF JAPANESE QUAIL'S KIDNEYS

Author(s): Kimaková, T. ¹, Bernasovska, K.², Korenekova, B. ³, Rimarova, K. ^{2*}

Affiliation(s): ¹ Institute of Histology and Embryology, Faculty of Medicine, Kosice, Slovakia

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³ Research Institute of Veterinary Medicine, University of Veterinary Medicine, Kosice, Slovakia

Study purpose: Cadmium belongs to the group of heavy metal and is widely used in industry and also in agriculture as a contaminated part of artificial man-made fertilisers. Cadmium affects human health through occupational and environmental exposure. In mammals, it exerts multiple toxic effects. Revised multiple mechanisms are discussed, such as modulation of gene expression and signal transduction interference with enzymes of the cellular antioxidant system and generation of reactive oxygen species (ROS), inhibition of DNA repair and DNA methylation, role in apoptosis and disruption of E-cadherin-mediated cell-cell adhesion. Cadmium affects both gene transcription and translation. In humans, extended exposure to low Cd concentration levels results in adverse effects to the kidneys, bones, lungs, testes, the immune, nervous, and the cardiovascular systems. Once Cd is sequestered inside the body, it becomes bio-concentrated and has the potential of affecting human health. Very sensitive indicator of environmental burden with trace elements are animals and humans living in polluted area. The aim of the present study was determination of Cd effect on Japanese quail's inner organs on the level of morphologic and histological changes.

Materials and methods: In bio-animal experimental essay have been used two groups of poultry – each group per 6 animals. The “first” group was control. In the second experimental group, cadmium (Cd²⁺) in the form of water solution CdCl₂ was administered daily in dose 0,12 mg Cd/ day and animal. Poultry were fed complete feed mixture for poultry HYD 10 set as full-value feed. Water and feed mixture were provided ad libitum. The broiler chicks were kept in cages on favourable microclimatic conditions for growing. The samples were obtained on 58th day of experiment. The mean weight of Japanese quails during the experiment was 170g. The experimental conditions complied with the requirements for ethical standards of welfare and animal treatment. Ethical committee of UVM declared presented trial. The samples of kidney were fixed by 4% formaldehyde and dehydrated in graded alcohol solution, embedded in paraffin wax, sectioned, dewaxed and mounted on glass slides. Sections were stained routinely with haematoxylin and eosin.

Results: In the exposed group of quail's kidney, vacuolisation of cytoplasm was observed. The histological picture of the kidneys shown, that epithelial cells were desquamated in the lumen of the tubules. These results are in agreement with literature sources where similar pictures were observed: dysfunction and damage of kidney, mainly in the proximal tubules. The levels of Cd deposition in tissues depend in the type of tissue, but this element is deposited mostly in liver and kidney tissues.

Conclusions: In conclusion, the present study suggests that cadmium exposure may alter inner organs and tissues of poultry. Analysis for the presence of environmental pollutants - mainly residues of trace elements like Cd, Hg, Pb in animals tissues that are used as human food is important in an ecological sense because enables us to evaluate the effects of environmental pollution.

Program (August 26, 2004)

Place: The conference hall, Congress Center of the Investigation City,
The School of Nutrition, The University of Costa Rica

Keynote Address (2)

(Chairpersons) Dr. Victor Alvarez Porras, Costa Rica.

(August 26, am 9:30-10:00) Prof. & Director, Alcira Castillo Martinez
University of Costa Rica, Faculty of Medicine, School of Public Health

Topic: Improvement of Health Management in the Local Health Level in Costa Rica. - An Experience of Training. Spanish*

Title: IMPROVEMENT OF HEALTH MANAGEMENT IN THE LOCAL LEVEL IN COSTA RICA: AN EXPERIENCE OF TRAINING

Author(s): Prof. Dr. Alcira Castillo Martinez

Affiliation(s): University of Costa Rica, Faculty of Medicine, Director of the Public Health School, San Jose, Costa Rica.

STUDY PURPOSE: Identify and analyze the problems of the health management in the first level of primary attention of the health services of Caja Costarricense del Seguro Social to improve an enabling plan for the professionals on health.

MATERIALS & METHODS: Analysis and explanation of the problems of management on the first level of primary attention on health. Identification of critical knots, their determinations and conditions. Thematic and pedagogic design of the educational offering.

RESULT: The Reform of Health sector begins in Costa Rica in 1994 with the re-organization of the model of attention with emphasis on the first level of attention, it cause organizing, administrative, technical, ideological, and technological changes which make impact on the actions and traditional practices of the health management. All this implies the appearance of problems in health management, relative to lack of knowledge and human resources practices in the analysis of the local health situation, the strategically planning of actions on health, the incorporation of the population with social participation, and problems relative to the technical approaching of health primary attention with integral perspective.

DISCUSION: Working on the first level of primary attention requires of the development of capabilities relative to abilities, attitudes and human resources knowledge, specially, from the professionals who attend the persons and the population groups, taking into consideration their needs and health problems, using the institutional and community resources; so on, the community focus, the cultural sensibility to understand the material conditions and the culture perceived by the persons around, how to build and keep the health, as well as the development of the quality and security of the attention, are the conditions to improve the way to humanize and guarantee the continuity of the health attention with the services of other attention levels and with community nets. By other way, it is also required the development of the capabilities for the orientation to change, considering this as a risk and achievement element in the daily labor; the ability to practice influence with knowledgements and positive attitudes to make potency in the active participation of people in health management, and the ability of working as a whole to generate the collective management in making total decisions results the creation of favorable environments for the total actions among the health professionals and the community.

CONCLUSIONS: The factors obtained from the research process improve the qualification process with the methodology of distance education in which the offering of contents is organized with modulates of auto-learning, which redefine this aspects of knowledge, methodology and techniques of attention process of integral health, relative to the found main health problems and health management; particularly, we deepen on the theory and practice in the twelve different modulates that conform the Special Course of post graduate in Health Local Management, with 170 hours of presence study, plus the hours of auto-study, which is given in decentralized way in all of the health regions of the country, since eight years ago. Action which serves as example of the work as a whole between the University and the academy with the health services to attend with greater efficacy and equity the concrete problems of health management in the health local level.

Session (3)

Resource allocation and marketing in health risk management.

(Chairpersons) Prof. Zourgui Lazhar, Tunisia. Dr. Jian Sun, Canada.

(August 26, am 10:00-10:25)

Topic: Biodegradation of Plant Residuals and Cellulose Wipes Using Microbial Associations and Strains.

Prof. Viacheslav K Ilyin¹, Ogorodnikov I.G^{2*}, Esiev S S, and Tiurina D.A.¹.

1. Russian Federation State Research Center – Institute for Biomedical Problems, Russian Academy of Sciences, Moscow, Russia
2. Company “Ogorodnikov and Partners”, Moscow, Russia

(August 26, am 10:25-10:35) Coffee Break

(August 26, am 10:35-11:00)

Topic: Nutrition for Health Promotion: Challenges of Graduate Programs in Central America.

Prof. Xinia Elena Fernandez (University of Costa Rica, Graduate Program on Human Nutrition, School of Nutrition, Costa Rica)

(August 26, am 11:00-11:25)

Topic: Applying Burden of Disease Measures to Assess the National Health Insurance Performance in Iran.

Dr. Mehdi Russel (Keele University, The Center of Health Planning and Management, Staffordshire, UK)

(August 26, am 11:25-11:45) Session Discussion

Title: BIODEGRADATION OF PLANT RESIDUALS AND CELLULOSE WIPES USING MICROBIAL ASSOCIATIONS AND STRAINS

Author(s): Ilyin V.K., Ogorodnikov I.G.*, Esiev S.S., Tiurina D.A.

Affiliation(s): Russian Federation State Research Center – Institute for Biomedical Problems, Russian Academy of Sciences, Moscow, Russia

*Company “Ogorodnikov and Partners”, Moscow, Russia

The efficiency of usage of ultraviolet-treated water in cultural media for microorganisms, participated in production of food stuff was studied.. The activity of growth and development and also different properties of lactobacilli, bifidobacteria and bakery yeasts were analyzed. The frequency of genetic transfer of Escherichia coli markers in liquid nutrient media were estimated.

It was shown that under the influence of ultraviolet treated water the propagation of microorganisms, their restoration from liophylised phase is accelerated. The colonies which were grown on the media which contain water, treated by ultraviolet, has increased number of colony forming units. The colonies, which were grown on agarised media, containing modified water, has a tendency of increased production of some enzymes (bacteriocines, beta-lactamase, hemolysin).

Conjugation, performed in the broth based on water, treated by ultraviolet revealed no changes in plasmids transfer frequency. The number of colony forming units of yeasts also depended on ultraviolet-treated water in media, as well as on amount of nutrient substances.

Probably one of the leading mechanisms of acquired modifications of bacterial characteristics, based on modification of electric conductivity in modified media.

The application of ultraviolet-treated water may be recommended for production of foodstuffs in different processes, which are used by microorganisms and nutrient media.

Title: NUTRITION FOR HEALTH PROMOTION: CHALLENGES OF GRADUATE PROGRAMS IN CENTRAL AMERICA

Author(s): Fernandez, Xinia Elena, Ph.D.

Affiliation(s): Graduate Program on Nutrition, School of Nutrition, University of Costa Rica; Health Research Institute, University of Costa Rica

The nutritional transition in developing countries such as Costa Rica has brought many challenges to society. Latin American countries are facing a double burden of nutritional disease of children that affects health throughout the life course. Most countries of the region are at different stages of the demographic transition with varying combinations of deficiency disease with a rapid emergence of diet related chronic disease. Costa Rica as a case is experiencing a very fast demographic transition where fertility rates and mortality rates are decreasing and life expectancy is as high as in some developed countries. These changes result in a significant increment of the elderly group and with it all the requirements for assisting the needs of this important group of the population. There is a need to solve pending problems related to malnutrition from insufficiency in the intake of protein, energy and macronutrients, at the same time as obesity and chronic disease are rising and in many cases coexisting even in the lower socioeconomic groups.

For many years health programs have been directed to those showing symptoms of disease and significant percentages of the budget of health systems used for treatment and medications. Health Promotion and Prevention Programs are scarce.

Considering the general goal of the World Strategy for Diet, Physical Activity and Health proposed by OMS that is to promote and protect health through sustainable community, national and worldwide activities as a mean to reduce morbidity and mortality related to unhealthy diets and lack of physical activity, the world strategy proposes four areas that must be addressed to achieve the goal:

- Reduction of risk factors through Health Promotion and Prevention of disease through activities that focus on a healthy diet and promotion of physical activity. Education and social communication are key for achieving this.

- Food Policy should be compatible to the protection and promotion of health. There is a need for food and nutrition programs and incentives for agriculture and production of healthy foods.

- National Policy should support healthy diet and physical activity programs for all citizens with special attention to infants and children

- Nutrition Surveillance and Permanent Evaluation are required to follow up policies and programs

- Research and continuous training should be central in the process of health promotion. Research should be done at all levels (community, government, private sector and universities, etc). In order to do this, health professionals need to be involved on a permanent process of improvement

- Advocacy and funding seeking need to be part of all health promotion and prevention activities

The Graduate Program on Human Nutrition at the School of Nutrition at the University of Costa Rica currently offers a Master Program (72 cr.) on Nutrition for Health Promotion that is unique in Central America. The program includes courses in three main areas: Nutrition, Research and Health Promotion.

At this time, the Master program is located only in Costa Rica but we have a regionalization plan to extend our coverage to the Central American countries. To do so, we are currently implementing a pedagogical platform that will use distance education, bimodal education and eventually virtual education to reach all countries in Central America. This presentation will focus on how a Master Program would provide professionals with the best skills to face the challenge of promoting health through Nutrition. Support is needed to support the regionalization project and to open opportunities to Central American professionals.

Title: APPLYING BURDEN OF DISEASE MEASURES TO ASSESS THE NATIONAL HEALTH INSURANCE PERFORMANCE IN IRAN

Author(s): Dr RUSSEL, Mehdi

Affiliation(s): Keele University, Keele, Staffordshire, UK

Background Using DALYs as an indicator to prioritise the health service delivery and reduce the burden of disease for the public is a policy for resource reallocation and essential package determination for insurance carriers in Iran.

Methods A cross sectional study was designed to compare several measures of the burden of disease including DALY, YLL, mortality, and hospital days with the amount of National Health Insurance (NHI) carriers disbursed, in Iran in 2000. With the use of correlation coefficient test the relation between these measures and NHI expenditures calculated and with the use of regression test predicted funds calculated and compared with actual expenditures.

Results The result of this study showed that there was no strong relation between the NHI expenditures and DALY ($r=0.41$, $p=0.09$), but there were strong relations between the amounts of NHI reimbursements with YLL($r=0.52$, $P<0.05$), Morality($r=0.67$, $P<0.01$) and hospital days ($r=0.90$, $P<0.01$). However there were significant correlations between total expenditures (total of NHI and coinsurance payment) with YLL($r=0.49$, $P<0.05$) mortality($r=0.65$, $P<0.01$) and hospital days($r=0.91$, $P<0.01$).

The differences between actual and predicted expenditures for each disease, with DALY, YLL and mortality as independent variable calculated by using the regression tests. It shows the groups of disorders either received less or more resources than predicted.

Comparing each group of disorders' DALY, with the resources dispersed for them (cost per DALY) was shown that Diabetes mellitus, musculoskeletal diseases, maternal conditions, sense organ disorders received considerably generous resources and, perinatal conditions, congenital abnormalities, nutritional deficiencies was relatively under funded.

Conclusions The NHI expenditures for diseases classification is not associated with the DALY, however, other measure of burden of disease yield different conclusions.

The First General Assembly of Pan American Society in the URMPM

(August 26, am 11:45- pm 12:10) At Conference Hall of the Congress Center

The First General Assembly of Pan American Society of Risk Management for Preventive Medicine.

–Chaired by Prof. Leda Muñoz Garcia, and R. Sakai.

(August 26, pm 12:10-13:10) Lunch

Educational Lecture (3)

(Chairpersons) Prof. Banwari L. Meel, South Africa.

(August 26, pm 13:10-13:40) Dr. Nathalie de Marcellis-Warrin
Montreal University, Center for Interuniversity Research and Analysis
on Organization, Risk Management Research Group, Quebec, Canada)

Topic: Patient Safety Legislation in Quebec (Canada) - Principle and Practice.

Title: PATIENT SAFETY LEGISLATION IN QUEBEC (CANADA): *PRINCIPLES AND PRACTICE*

Author(s): de Marcellis-Warin, Nathalie

Affiliation(s): Ecole Polytechnique de Montreal and CIRANO, Montreal, Canada

STUDY PURPOSE:

During the past decade patient safety has emerged as a major health policy issue. In 1999, the Institute of Medicine (IOM) concluded in its report *To Err is Human: Building a Safer System* that medical errors are the eighth leading cause of death in the United States. To address the problem, there has been a steadily growing and forceful call for legislation that will facilitate the reporting of health care errors and so that such errors can be identified and analyzed to improve patient safety by preventing future errors. All governments, and not only in the United States, tried to develop strategies to ensure safe environment for patients. This study presents an overview of the patient safety legislation that was passed in Quebec (province of Canada) in December 2002. Bill 113 made amendments to the Act respecting health services and social services as regards the safe provision of health services and social services. The legislation enforces the goal of improving patient safety by creating a mandatory reporting of any accident and incident. Moreover, every institution is required to form a risk management committee, responsible for seeking, developing and promoting means to ensure the safety of users and to reduce the incidence of adverse effects and accidents related to the provision of health services and social services.

MATERIALS & METHODS:

First, we study the purpose and the need for patient safety legislation, second, we present the principles of the legislation and third, the implementation of such a legislation in practice. We examine how the legislation might impact healthcare facilities and the needs created: standardized report forms; investment in information technology; protection of reported information; use of accident analysis tool; contains of local and provincial registers of incident and accident; data analysis tools;.... We made a survey on incident/accident reporting in Quebec Healthcare facilities to analyse the current situation. We worked closely with the ministry of health to help in implementing this law, and to propose tools with which these implementations could most effectively take place (e.g. incident/accident report forms and an accident analysis tool).

RESULT:

The implementation process of the law is very long and works are still in progress. We present the different steps of this process and the difficulties met by the ministry of health and by the healthcare facilities. We analyze the results of the survey and show disparities and similarities between healthcare facilities.

DISCUSSION:

The purpose of this legislation is to encourage a culture of safety and quality in the healthcare system for the purposes of improving the quality of medical care and patient safety. We discuss the effect of the mandatory reporting and the future goal of this provincial register of incident/accident.

CONCLUSIONS:

We present the future agenda of the implementation and make policy recommendations for other patient safety legislation.

Session (4)

Individual factors – behavior, public acceptance, risk perception, ethics.

(Chairpersons) Dr. Hiroyuki Watanabe, Japan.

(August 26, pm 13:40-14:05)

Topic: The Impact of Ethnic and Social Factors on Reproductive Parameters of Newbornes and Mother's from East Slovakia.

Dr. Rimarova Kvetoslava^{1*}, Ostro Alexander², Bernasovska Kamila¹, Holéczyova Gabriela¹, Petrasova Darina³

1. Institute of Hygiene, Faculty of Medicine, Kosice, Slovakia
2. IInd Gynecologic clinic, Faculty of Medicine, Kosice, Slovakia
3. Institute of Experimental Medicine, Faculty of Medicine, Kosice, Slovakia

(August 26, pm 14:05-14:30)

Topic: Back Ground for Falls of Admission Patients.

Dr, Hiroyuki Watanabe (Showa University, Japan), Prof. Kazuyuki Serada (Showa University, Japan), Dr. Kumiko Kasuya (Showa University, Japan), Dr. Mieko Matsumoto (Showa University, Japan)

(August 26, pm 14:30-14:55)

Topic: Mistake patients: its background and prevention

Watanabe, HA.*, Serada, K., Kozuka, K., Kato, K., Kawana, Y., Muto, T. (Department of Medicine, Anesthesia, Medical Informatics, Pharmacy and Nursing, Showa University Northern Yokohama Hospital, Yokohama, Japan)

(August 26, pm 14:55-15:20) Session Discussion

(August 26, pm 15:20-15:35) Coffee Break

Title: THE IMPACT OF ETHNIC AND SOCIAL FACTORS ON REPRODUCTIVE PARAMETERS OF NEWBORNS AND MOTHERS FROM EAST SLOVAKIA

Author(s): Rimarova K.^{1*}, Ostro A.², Bernasovska K.¹, Holeczyova G.¹, Petrasova Darina³

Affiliation(s): 1 Institute of Hygiene, Faculty of Medicine, Kosice, Slovakia

2 IInd Gynecologic clinic, Faculty of Medicine, Kosice, Slovakia

3 Institute of Experimental Medicine, Faculty of Medicine, Kosice, Slovakia

Study purpose: According to the classic categorization the Romanies – Gypsies belong the White race called also Caucasians, Euro-Asiatic or Indo-Europeans. The Gypsies do not represent a united entity. The gypsies minority, particularly females, and their health parameters are completely different from other population groups. Gypsies minorities create in the former socialist – East and Central European countries important political, social, integrating but also health status problems. Knowledge about health of gypsies is only from a few scientific studies, because general governmental statistics of morbidity, mortality, basic health do not allow to divide population on white and gypsies, so we need planned and structural research, we need data collection for epidemiological studies to create results about worsening health condition among gypsies, including reproductive parameters and females health status.

The second part of the study included evaluation of social factors due to standardized data collection from gynecologic and obstetrical reports.

Material and methods: I. Data from 234 maternal and newborn obstetrics reports were retrospectively collected on regional Gynecologic and obstetrical center in Kosice. Maternal reports included 234 females of both white (173) and gypsies (61) ethnic. Newborn medical reports included data about birth weight, birth length, chest and head circumference, Apgar score for newborn vitality. Maternal reports and interviews included basic social health data (smoking, marital status, education, employment, economic activity, coffee drinking). Reproductive parameters (f.e. premature delivery, low gestation age, interruption, spontaneous abortion, parity, mother's weight increase, complications during pregnancy) were collected also from maternal and gynecologic reports.

II. Data from 722 maternal reports (only official statistic data) have been evaluated due to difference of social status, There is a great impact of education on reproductive parameters, also on the numbers of children in the family, gestational age, factor where a strong impact is Databases and statistical analysis outputs were created in STATA. All associations are expressed as OR or adjusted OR ratios with 95% confidence interval (Mantel-Haenszel) in logistic regression model. Data of newborns are adjusted for sex of newborn, mother's age, marital status., smoking, employment, education level and smoking. Reproductive parameters data are adjusted for mother's age, marital status., smoking, employment, education level and smoking. Data of basic social factors as difference between gypsies and white are expressed as RR without adjustment.

Results: Study I. Statistical analysis can define for the group of gypsies mothers significant differences in unemployment rate, low education level, low marital status, low mother's age.

Statistical multi-logistic analysis of newborn reports shows statistically significant lower birth weight of gypsies than white. Low birth weight LBW is higher among gypsies group -adjusted OR of LBW is 3,03 (p <0,05). Other parameters of newborns also shows great difference in lower birth length, low head and chest circumference but not statistically significant. Apgar score for newborn vitality has no differences between white and gypsies.

Adjusted OR of reproductive parameters for gypsies are not statistically significant comparing to white females, but shows negative trends in the health of gypsies mothers. They have lower gestational age, more frequent premature delivery, more frequent multiparity – number of deliveries, more frequent spontaneous abortion, tendency for lower pregnancy weight increase in mothers. Prenatal gynecological disorders are higher in the group of gypsies mothers.

Study II. The mother's education had a significant effect on the number of deliveries. The family status of the mother (life with or without partner) has strong relationship on gestational age: adjusted OR for low gestational age OR = 2, 82.

Conclusions: The results of our two retrospective cross-sectional studies are showing a great differences between white females and gypsies females reproductive parameters and also well know social factors impact. The study is still ongoing as a part of the research grant VEGA1/9310/02 and is proposing to collect more data from gynecologic clinic.

The last question is the reason for such as health inequities” is it a question of ethnic origin or a question of different social status in the study where is an ethnic difference.

Title: BACK GROUND FOR FALLS OF ADMISSION PATIENTS

Author(s): Hiroyuki Watanabe, Kazuyuki Serada, Kumiko Kasuya, Mieko Matsumoto

Affiliation(s): Department of Medicine, Anesthesia, and Nursing, Showa University Northern Yokohama Hospital

PURPOSE: It is reported that an average span of Japanese life is longest in the world. An average age of admission patients is also higher. The incidents of falls occupy a high position in report of Japanese ministry of health, labor and welfare. We studied the back ground of falls of admission patients in our hospital.

MATERIALS & METHODS: The incident reports for falls from April 2001 to March 2003 were studied. The risk of falls was evaluated by assessment score sheet on admission and graded to three steps. Grade 1 is to have possibility of falls. Grade 2 is to have possibility to fall easily. Grade 3 is to have possibility to fall frequently. The time they were found was analyzed from the incident reports. It was studied the drugs which are related to fall were administered or not before falls. They were analgesia, anesthetic drugs, sedatives, sleeping pills, psychotropic drugs, narcotics, diuretics, oblockers and laxatives. The effect of behaviors for toilet and using a wheelchair was analyzed. The diseases of the patients with fall were examined.

RESULTS: There were 375 incident reports for falls from April 2001 to March 2003. The mean age of their patients was 71 ± 16 years old. The ratio of male and female was 211:164. There were 113 falls of Grade 1, 118 falls of Grade 2 and 138 falls of Grade 3. There were 197 falls from 18:00 to 7:00 and 176 ones from 7:00 to 18:00. The most frequent time was from 3:00 to 7:00 and the most fewest time was from 18:00 to 21:00. While there were 215 falls of drug administrations containing analgesia, anesthetic drugs, sedatives, sleeping pills, psychotropic drugs, narcotics, diuretics or oblockers, there were 160 falls of no administrations of them. The mean age of the former group was 71 ± 14 years old and m:f was 115:100. The proportion of the risk group was 77 patients with grade 1(35.8%), 59 patients with grade 2(27%) and 76 patients with grade 3(35.3%). There were 68 (32%) and 31(14%)falls associated with toilet and wheelchair respectively. The mean age of the latter group was 69 ± 20 years old and m:f was 96:64. The proportion of the risk group was 36 patients with grade 1(22.5%), 59 patients with grade 2(36.9%) and 62 patients with grade3 (38.8%). There were 59(37%) and 16(10%) falls associated with toilet and wheelchair respectively. The diseases of the all patients with fall showed digestive disease of 22.4%, psychiatric disease of 18.6%, respiratory disease of 12.2%, and orthopedic disease of 11.5%. The former group showed psychiatric disease of 25.6%, digestive disease of 24.3%, orthopedic disease of 11.8%, respiratory disease of 11.1%, and nervous system disease of 9.8%. The latter group showed digestive disease of 20.2%, nervous system disease of 14.8%, respiratory disease of 13.6%, orthopedic disease of 11.1% and psychiatric disease of 9.9%.

DISCUSSION: The mean age, behavior of toilet and using a wheelchair, and proportion of a high risk group showed no distinct difference between both groups. The group without drug administrations occupied a little less than a half of falls. The digestive diseases of relatively large proportion were found among both groups. It means that not simple but complex factors are contained in the causes of falls.

CONCLUSIONS: All aged person has risk of falls. The risk of falls does not depend on a kind of disease and a grade of risk evaluation of falls.

Title: MISTAKE PATIENTS: ITS BACKGROUND AND PREVENTION

Author(s): Watanabe, HA.*, Serada, K., Kozuka, K., Kato, K., Kawana, Y., Muto, T.

Affiliation(s): Department of Medicine, Anesthesia, Medical Informatics, Pharmacy and Nursing, Showa University Northern Yokohama Hospital, Yokohama, Japan

STUDY PURPOSE: It is a first step of diagnosis and treatment to identify patients correctory. However wrong medication or surgery after mistaking patients has been sometimes announced. We studied the background and prevention of mistaking patients.

MATERIALS & METHODS: .Our hospital was opened on April 1 in 2001. We used the definition of incident as described as follows. The incident means wrong behaviors which were found not to be done to patients or which had no harm effects to patients after done. It is announced that all hospital staff has right to submit incident reports and does not receive disadvantage. The incident reports for mistaking patients from April 2001 to March 2004 were studied. The kinds of behaviors and causes for mistake patients were analyzed.

RESULT: There were 4220 incidents in all and 88 incidents for mistaking patients from 2001 to 2003. The proportion of the incident for mistaking patients to all incidents was 2%. The incidents for mistaking patients occurred on drip infusion with frequency of 28%, on medication with frequency of 23%, on venipuncture with frequency of 11%, on examinations of x-ray and endoscope with frequency of 10%, on getting specimens with frequency of 5%, and on interview in outpatient department with frequency of 3%. They occurred on nursing, on delivering meal, and on recording in electronic chart with frequency of 2% respectively, and on operation, on radiation therapy, on injection, on dispensing medicine, on delivery medicine, on tube feeding with frequency of 1% respectively. The causes of mistaking patients were missing of confirmation (76.1%), wrong thought (17.0%), transmission failure of information between hospital staffs (4.5%) and input error into electronic medical record (1.1%). Mistaking patients occurred when patient's name on the label of the infusion bottle, on the label of the specimen sample collecting tube and/or on the wrist band was not confirmed. When a staff confirmed to a patient "You were Mr. or Mrs. A.", the patient replied "Yes" even if he or she was not Mr. or Ms. A. We should say to patients "please tell us your name". We introduced confirmation by bar code just before drip infusion was performed in the wards from January in 2002. The incident for mistaking patients on drip infusion showed markedly decrease in 2003. There was only one incident after introduction of bar code, though there were 23 incidents before introduction.

DISCUSSION: When a doctor called a patient into an examination room in the outpatient department, another patient entered the room. A patient is strained in a hospital and sometimes does wrong behavior. It is sometimes difficult for aged patient to communicate. It is important to make patients tell their name and confirm their identification cards. Confirmation of patients by bar code is useful. It is expected to extend the use not only on drip infusion but also on medication and on examinations. There are some problems on our confirmation system by bar code. The confirmation at midnight sometimes disturbs the sleep of patients. The present material of the wrist band is poisoned for the skin of the new born baby. There is no attached place on the body for premature baby. Development of new material of the wrist band and new confirmation methods of a living body is expected.

CONCLUSIONS: It is needed to make patients tell their name and confirm their identification cards or their wrist band. Confirmation of patients by using bar code contributes to decrease the risk for mistaking patients.

Session (5)

Drug safety and drug addict prevention.

(Chairpersons) Prof. Alcira Castillo Martinez, Costa Rica.

(August 26, pm 15:35-16:00)

Topic: A study on alcohol-related-traumatic-deaths in Transkei region, South Africa.

Prof. Banwari L. Meel (President, African Society of Risk Management for Preventive Medicine, School of Medicine, University of Transkei, South Africa)

(August 26, pm 16:00-16:25)

Topic: Consumo de drogas en Costa Rica. Evaluación de una década de investigación (Drugs Consume in Costa Rica. Evaluation of a Decade Investigation). Spanish*

Dr. Julio Bejarano (Instituto sobre Alcoholismo y Farmacodependencia, Costa Rica)

(August 26, pm 16:25-16:50) Session Discussion

(August 26, pm 7:00- pm 9:00) Farewell party by the registered participants

Title: A STUDY ON ALCOHOL-RELATED-TRAUMATIC-DEATHS IN TRANKSEI, REGION, SOUTH AFRICA

Author(s): B. L. Meel MBBS, MD, DHSM (Natal), DOH (Wits)

Affiliation(s): Department of forensic medicine, Faculty of Medicine, University of Transkei P/bag X1 UNITRA, Umtata 5100, South Africa

Background: Worldwide, alcohol abuse is on the increase, with more people becoming alcohol dependent and larger quantities of alcohol being consumed.¹ Alcohol abuse cost South Africa at least R9-billion a year, with half of all the murders, road accidents and more than 60% of hospital trauma cases, the result of drunkenness.² The use of alcohol and drugs like cannabis, mandrax, and herbs are common in this part of South Africa. This study was an effort to unfold the underlying cause/s of drug related deaths, and also to determine some remedial measures.

Objective: To study the incidence of drug or alcohol related deaths in the Transkei.

Method: This is a record review of the medico legal register of Umtata General Hospital mortuary from 1993 to 2001.

Results: Deaths as a result of poisoning have increased from 4% to 28% over the past 9 years (1993-2001), with males predominating over females (66% cf. 34%). Alcohol consumption contributed directly or indirectly to at least 50% of cases of traumatic deaths. However, the exact impact and circumstances of alcohol or drugs related deaths are not clear, but alcohol is the main underlying cause of violence. It has also contributed to the rapid spread of HIV/AIDS.

Conclusion: Alcohol and drugs have significantly contributed to the causation of deaths in Transkei. It has increased five fold in the last 9-years in parallel with the incidence of HIV/AIDS. There is a need for a prospective study to understand alcohol and drug related mortality in the area.

References:

1. Spring S. Alcohol abuse increasing worldwide, warns church health official, 2000 Medical Research Council report. Boozing costs SA R9billion published in Sunday times, September 28, 200, page 5.

Title: DRUGS CONSUMPTION IN COSTA RICA. EVALUATION OF A DECADE OF INVESTIGATION

Author(s): Julio Bejarano

Affiliation(s): Instituto sobre Alcoholismo y Farmacodependencia (IAFA), Costa Rica

In this presentation, the main results of the national studies about alcohol, tobacco, and illicit drugs consumption performed in the years of 1990, 1995, and 2000 on Costa Rican population between the ages of 12 and 70 years are analyzed. The mentioned studies constitute a sequence of prevalent transverse researches, of which general goal is the analyzes of the nature and the characteristics of the psychoactive substances ingestion in Costa Rica with basis on the proceedings of uniformed researches.

The showing cases (one apartmental and the other by person) were based on the cartography of the Instituto Costarricense de Estadísticas y Censos, and the selection of each interviewed person was made by a multiple-stages and very probable process. The utilized instrument consists of nine sections, five of them are used to obtain information about prevalent consumption (life, year, month) of lawful and illicit drugs, age of the beginning, associated problems, and reasons of ingestion and cessation. In the section of alcohol consumption AUDIT was incorporated as a newness element. A section attains opinions from the interviewed people about the danger of drugs, the legalization of their production and consumption, the easiness to get drugs, the quantity of friends who consume them, etc.

With regard to active alcohol consumption (or of the latest month) we observe stability on the prevalent level, same that in the 2000 year was equal to 26.6%. The level of tobacco consumption shows itself very similar with regard to the year of 1995 (16%) but significantly lower, compared with what was found on 1990 (18.7%). The active marijuana consumption was also reduced in relation to the 90 year (1,14% to 0,4%) meanwhile cocaine and crack consumption were stable (0.2 to 0.1% respectively). The levels of incidence on tobacco consumption are the highest (from 14 to 21.2 x 1000 residents), meanwhile those on alcohol kept similar (115.6 and 111.1 x 1000 residents).

Several differences about gender and variable socio-demographics are commented, besides the relation with other national studies in different populations.

The results reveal that the consumption/abuse of alcohol and tobacco persist as the most important ones, even the perception of the people suggest a main concern of the illegal drugs. Nevertheless the previous information, we should indicate that the reduction on the general prevalent alcohol consumption throughout the decade is a positive aspect, as well as the reduction of the consumption of tobacco and marijuana. These achievements can have a relation to the actions on the preventive and public politic order implemented in the latest decades.

Program (August 27, 2004)

Place: The conference hall, Congress Center of the Investigation City,
The School of Nutrition, The University of Costa Rica

Session (6)

Biology in food safety.

(Chairpersons) Dr. Ronald Melendez, Costa Rica. Dr. Kvetoslava Rimarova, Slovakia

(August 27, am 8:30-8:55)

Topic: Ochratoxin A and Their Analogues and Human Chronic Nephropathy in Libya and Tunisia.

Prof. Zourgui Lazhar (Facultte des Sciences de Gafsa, Tunizia)

(August 27, am 8:55-9:20)

Topic: β -Lactamase Mediated Resistance to β -Lactamantibiotics in *Pseudomonas Aeruginosa*.

Prof. Omrane Belhadj (Facultte des Sciences de Tunis, Tunizia), et al.

(August 27, am 9:20-9:45)

Topic: Terpenoid of *Inula Viscosa* Induces Mitochondrial-Independent Apoptosis-Like Cell Death in Yeast *Saccharomyces Cerevisiae*.

Prof. Omrane Belhadj (Facultte des Sciences de Tunis, Tunizia), et al.

(August 27, am 9:45-10:10)

Topic: Identification pf Plasmid from *Escherichia coli* encoded Restriction, Modification System: Plasmid Preventive.

Hadeer **Lazim**¹, Jytte **Josephsen**², Assia **Ben Hassen**³, Lazhar **Zourgui**⁴ and Omrane **Belhadj**^{1*}

¹ Laboratoire Biochimie, Faculté des Sciences de Tunis, Campus Universitaire 1060 Tunis, Tunisia

² Department of Food Sciences, Royal Veterinary and Agricultural University, D-1958 Frederiksberg C, Danmark.

³ Laboratoire de Microbiologie, Centre National de Greffe de Moelle osseuse, Bab Saadoun Tunis, Tunisia.

⁴ Faculté des sciences de Gafsa- Tunisia

(August 27, am 10:10-10:30) Session Discussion

(August 27, am 10:30-10:40) Coffee break

Title: OCHRATOXIN A AND THEIR ANALOGUES AND HUMAN CHRONIC NEPHROPATHY IN LIBYA AND TUNISIA

Author(s): ZOURGUI L*^{1,3}.;CHERIF A².; KHALIFA F³.; ACHOUR A².; EMETRIS R³.; and BACHA H.²

Affiliation(s): 1: Faculté des sciences de Gafsa , cité Zarroug 2112, Gafsa, Tunisia
2: Laboratoire de Recherche sur les substances Biologiquement Compatibles (LRSBC), Faculté de Médecine Dentaire, Rue Avicenne, 5019 Monastir, Tunisia.
3: Toxicology Department, Faculty of Medicine-El Fateh University, Tripoli-Libya

Ochratoxin A (OTA) is a mycotoxin produced by species of *Aspergillus* and *penicillium* genera. Human exposure to OTA has been investigated in several European countries, in North America, in Japan and in North Africa. OTA is being increasingly considered as the main causal agent of Balkan endemic nephropathy (BEN) and of other resembling Chronic Interstitial Nephropathies (CIN) such as the "Tunisian CIN". In Tunisia and Libya, OTA has been found in a several cereals and home made food. This toxin was more frequently detected and at higher concentrations in blood and food of people having a kidney failure characterized as CIN (1). In addition, our study showed many additional fluorescent migration lines by TLC and additional peaks by HPLC, in the course of sample treatments and analysis. In other respects, Hadidane et al. (2) reported the presence of three natural analogues of ochratoxin A in which the phenylalanine moiety has been replaced by serine, hydroxyproline or lysine. These analogues were isolated from *Aspergillus ochraceus* culture on wheat and characterised by HPLC and mass-spectrometry analysis. Our study showed the presence of at least twelve analogues of phe-OTA. These ochratoxins are: phenylalanine-OTA, glycine-OTA, valine-OTA, leucine-OTA, serine-OTA, threonine-OTA, cysteine-OTA, methionine-OTA, glutamic acid-OTA, tyrosine-OTA, lysine-OTA and proline-OTA. The fact that other natural analogues of OTA having different aminoacids are found in foodstuffs and in human blood, may be considered as an additional risk factor since some of them (synthesized chemically) tested were found to be as toxic as OTA in vitro and in cell culture (3) and may exhibit synergistic effects. Another synergistic effect is possible when OTA or its analogues are associated with other mycotoxins (4).

References:

- 1- Bacha et al. (1993). Human ochratoxicosis and its pathologies, Ed E.E Creppy, M. Castegnaro and G. Dirheimer, p. 111, INSERM/John Libbey Eurotext.
- 2- Hadidane et al. (1992). Isolation and structure determination of natural analogues of the mycotoxin Ochratoxin A, produced by *Aspergillus ochraceus*, *Toxicology*, 76: 233.
- 3- Creppy et al. (1983). Comparative study of effect of Ochratoxin A analogues on yeast aminoacyl-tRNA synthetases and in growth and protein synthesis in hepatoma cells, *Toxicol. Lett.*, 19: 217.

Bacha et al. (1988). Monitoring and identification of fungal toxins in food products, animal feed and cereals in Tunisia, *J. Stored Prod. Res.*, 24:199.

Title: β -LACTAMASE MEDIATED RESISTANCE TO β -LACTAM ANTIBIOTICS IN PSEUDOMONAS AERUGINOSA

Author(s): REJIBA, S.1, BELHADJ,C.1; ZOURGUI,L.2; BEN MEHREZ, K.1 and BELHADJ,O.1*

Affiliation(s): 1- Laboratory of Biochemistry and Technobiology - Faculty of sciences Tunis
-TUNISIA
2- Faculty of sciences Gafsa -TUNISIA

β -lactam resistance is an increasing concern worldwide; the most frequent mechanism of resistance is β -lactamase-independent. The involvement of β -lactamases in resistance to β -lactams was investigated in clinical isolates of *Pseudomonas aeruginosa*. All strains had an inducible basic β -lactamase which hydrolysed cephalothin. This enzyme is the chromosomal cephalosporinase produced by the species. Secondary β -lactamase activities against carbenicillin and ticarcillin were detected in three strains and they were presumably carbenicillinases. One strain of *P. aeruginosa* produced an extended-spectrum β -lactamase (ESBL) of pI 7.6, hydrolysing penicillin and cephalosporins.

Title: TERPENOID OF INULA VISCOSA INDUCES MITOCHONDRIAL-INDEPENDENT APOPTOSIS-LIKE CELL DEATH IN YEAST SACCHAROMYCES CEREVISIAE

Author(s): AOUIDA, M.1; ORAN, S.,A. 2; ZOURGUIL, L.3 and BELHADJ, O.1 *

Affiliation(s): 1: Laboratory of Biochemistry & Biotechnology, Faculty of sciences Tunis-
TUNISIA

2: Department of Biological Sciences, Faculty of Sciences Amman- JORDAN

3: Faculty of Sciences Gafsa-TUNISIA

Apoptosis is a cell death process that important role in a wide variety of developmental and normal physiological processes in animal species, and causes diseases when inappropriately controlled. Although yeast do not possess the proteases ultimately responsible for the morphological events recognized as apoptosis unicellular eucaryotes can serve as powerful tool apoptosis researchers.

In our laboratory we have shown that cytotoxic drug bleomycin (BIM), a compound currently used in "anticancer therapy" with ability to induce a very high cytotoxicity when yeast *Saccharomyces cerevisiae* strains FY67 and YPH-1. this cytotoxicity was manifested by growth arrest and cell death. The results suggest that in *Saccharomyces cerevisiae* there is an apoptosis-like cell death independent of *cerevisiae* strains FY67 and YPH-1 constitute a good powerful in our laboratory for testing different Jordanian *Badia* plants compounds effects on the apoptosis and studying the molecular of the transduction signal cascade of this natural event.

In this study we have shown that the hydro soluble *Inula viscosa* extract contains compound able to induce a very high cytotoxicity as bleomycin on the two *Saccharomyces cerevisiae* strains. To characterize the cell death process induced by the plant extract, we undertook morphological analysis of cells treated. Electron microscopy analysis of control yeast cells, without treatment, showed typical morphology for normal cell, with central vacuole, several mitochondria, and homogeneous nuclear chromatin. In contrast, cell treated, develop a variety of morphological abnormalities: cell shrinkage and chromatin condensation. This observation was confirmed by DNA fluorescence microscopy using propidium iodide. Furthermore, treated cells showed rapid DNA fragmentation into oligonucleosomal-sized fragments. This situation is somehow reminiscent of an apoptosis-like cell death with the plant extract presumably plying the role of the relevant endonuclease synthesis.

Similar study has been done on petite yeast strains lacking functional mitochondria, showed extract-induced morphological and biochemical characteristic of apoptosis.

Our biochemical study is now focusing on the chemical analysis of the plant extract. The active compound is a terpenoid molecule related to the farnesyl family. The study is running by different techniques that will be discussed.

Title: Identification of Plasmid from *Escherichia coli* encoded Restriction, Modification System: Plasmid Preventive.

Author(s): Hadeer Lazim¹, Jytte Josephsen², Assia Ben Hassen³, Lazhar Zourgui⁴ and Omrane Belhad^{1*}

Affiliation(s): ¹Laboratoire Biochimie, Faculté des Sciences de Tunis, Campus Universitaire 1060 Tunis, Tunisia

²Department of Food Sciences, Royal Veterinary and Agricultural University, D-1958 Frederiksberg C, Denmark,

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⁴Faculté des sciences de Gafsa

Eco1524I specific endonuclease enzyme of a Type II Restriction-Modification system is isolated from *Escherichia coli* 1524a. The bacterium has been characterized as a strain highly resistant to phage attack. It has been isolated from patient in « Laboratoire de Microbiologie, Centre National de Greffe de Moelle osseuse, Bab Saadoun Tunis, Tunisia ». *Eco1524I* enzyme recognizes a 6-pb palindromic nucleotides sequence 5'AGG ↓ CCT 3' and cleaves as indicated by the arrow producing blunt end. Comparing to the type II restriction enzymes known, the *Eco1524I* is an isoschizomer of *StuI*. This protein is found and isolated from *E.coli* for the first time and presented a specific property that distinguishes it from the original *StuI*. The *Eco1524I* R-M system is located on the *E.coli* 1524a plasmid. The Genetic evidence for this material support plasmid was obtained by co-transformation. This report focuses on physical and functional aspect of the 4.8 kb plasmid, which has genes of R-M system. Plasmid have been cloned and expressed, and active enzymes have been produced in *E.coli* XL. Both the restriction endonuclease and methyltransferase were found to be encoded on this 2.2 kb cloned and sequenced fragment from the indicated plasmid.

Session (7)

Preventive clinical medicine.

(Chairpersons) Prof. Omrane Belhadj, Tunisia.

(August 27, am 10:40-11:05)

Topic: Effectiveness of Haemolymph against Scorpion Venom

Prof. Lazhar ZOURGUI^{1,2*}, Dr. Massaoud MAAMMAR¹, Prof. Omrane. BELHADJ³ and Dr. Ramadan EMETRIS¹

1: Toxicology Department, Faculty of Medicine- EL- Fateh university
Tripoli- LIBYA

2: Faculté des sciences de Gafsa – TUNISIA

3: Faculté des sciences de Tunis – TUNISIA

(August 27, am 11:05-11:30)

Topic: Predicting Hospitalization of Seniors with Chronic Disease Score.

Dr. Jian Sun^{1*}, Katherine Gooch¹, Larry W Svenson², Song Gao³, Kelly Novak¹, Cy Frank³

¹Institute of Health Economics, Edmonton, Canada

²Alberta Health and Wellness, Edmonton, Canada

³University of Calgary, Calgary, Canada

(August 27, am 11:30-11:55)

Topic: Influence of Gender and Obesity on Cardiovascular Risk Factors in the Group of University Students.

DR. Kvetoslava Rimarova.^{1*}, Kamila Bernasovska¹, Gabriela Holeczyova.¹, Darina Petrasova.²

1. Institute of Hygiene, Faculty of Medicine, Kosice, Slovakia

2 .Institute of Experimental Medicine, Faculty of Medicine, Kosice, Slovakia

(August 27, am 11:55-12:15) Session Discussion

Title: EFFECTIVENESS OF HAEMOLYMPH AGAINST SCORPION VENOM

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The scorpion envenomation is an important problem in the south of Libya, every year we note more than hundreds of accidents which are sometimes fatal. The utilisation of the imported anti-venom is not sufficient. Some peoples use other methods of treatments for example plant extract, the organic solvent and the scorpion haemolymph....etc.

Our results indicate that scorpion haemolymph provides some protection against scorpion envenomation. The comparative studies using the haemolymph fresh, stored and treated by protease show that the factor responsible for this protection is a protein. Utilisation of homospecific haemolymph or mixed haemolymph from different scorpion species provide the same protection against scorpion envenomation this is indicate that the haemolymph from different scorpion species.

It is important to say that the utilisation of scorpion haemolymph as a treatment of scorpion envenomation will be very beneficial mainly for men who live far away from the hospital and don't have a specific poly-antivenom. We can also use as a first aids.

Title: PREDICTING HOSPITALIZATION OF SENIORS WITH CHRONIC DISEASE SCORE

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STUDY PURPOSE: Derive the Chronic Disease Scores (CDS) with automated pharmacy data in Alberta, Canada.

MATERIALS & METHODS: Different types of medications prescribed during 2001/2002 for the treatment and management of chronic conditions were obtained from Alberta Blue Cross (ABC) claims database. The medications were clustered into 25 therapeutic classes to indicate the presence of a chronic illness based on the criteria proposed by Clark (1995). The study population was composed of all Alberta residents aged 65 or over who were registered with the Alberta Health Care Insurance Plan (AHCIP) continuously from June 30, 2001 to June 30, 2002. Individuals were excluded if they had been diagnosed with any malignancy, tuberculosis or HIV during the study period. Hospitalization rate and three outcomes for estimating CDS: total cost, outpatient care cost and the number of primary care visits in 2002/2003, were derived from AHCIP databases. Linear regression models were utilized to estimate CDS scores.

RESULT: Records for a random one half sample of 221,230 seniors were used to estimate the empirical weights for calculating CDS. The remaining one half of the population was used as a validation sample. Odds ratios for hospitalization from predicted CDS increased with each percentile group. The risk of hospitalization increased 10-fold for persons with a predicted total cost score in the 90-100th percentile over those with score in the 0-10th percentile.

CONCLUSIONS: We estimated CDS using Alberta data. The results show that these models can be generally used to predict hospitalizations for senior populations.

Title: INFLUENCE OF GENDER AND OBESITY ON CARDIOVASCULAR RISK FACTORS IN THE GROUP OF UNIVERSITY STUDENTS

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Study purpose: The aim of the study was the investigation of gender risk factors and obesity risk factors on cardiovascular diseases in the group of students from Medical Faculty UPJŠ (in Košice).

There is a fact that cardiovascular disease are more frequent in the group of elderly males than females. The study should claim this hypothesis in the group of university medical students. The study evaluates risk factors difference in particularly young population where the risk is very low and population has very high level of adaptation and biologic reparation. Second hypothesis evaluates risk of obese persons on blood parameters and also the changes in lifestyle pattern and eating habits.

Material and methods: Data from repeated cross-sectional studies were collected from 1104 students (426 males, 678 females), mean age 23,5 years. Analysis included personal questionnaires with positive family history, life style factors, eating habits, physical activity, alcohol, sleeping, reported stress, smoking. The questionnaires included also data about reported eating habits and nutritional opinions. The other sets of evaluation were anthropometrical characteristics – body weight, body height, BMI index, WHR index, percentage of body fat from skin-fold measurements. The rest of parameters included blood pressure, total blood cholesterol, HDL cholesterol, tryglycerides, vitamin C blood level. Blood test sample were created from 457 students. Statistical analysis was based on Epi-Info and STATA including program. All statistical associations are expressed as adjusted OR ratios with 95% confidence interval (Mantel-Haenszel). OR are adjusted on age, place of residence (home or residence hall), smoking and marital status.

Results: The results claim a higher incidence of risk etiological factors in the group of males compared with females. The values of HDL cholesterol, blood pressure: systolic and diastolic, BMI are statistically higher in the males group. Adjusted OR of systolic blood pressure higher than 120mmHg compared males and females was 7,2, in diastolic BP higher than 80mmHg was OR 4,85. Also higher Body Mass Index results were more frequent in the males group (OR=4,35).

The total blood cholesterol exceeded standards more in females than in males: adjusted OR=0,81, but results are not statistically significant. Protective HDL cholesterol levels are significantly better in females OR= 2,98.

There are no intersexual differences in blood vitamin C level, triglycerides, WHR and percentage of body fat.

In reported nutritional and eating habits all scores are negative for males, they use sugar and salt more frequently, they eat higher amount of animal fat, they report unhealthy eating habits. Smoking has higher prevalence in males, adjusted OR=2,2. All trend for body weight control and decrease are also expressed more negative in males. Statistically positive for males group are better physical activity, less reported stress at school and private life, and also better reported physical condition.

In nutritional habits were disproportion when were compared with RDA (recommended daily allowances), exceeded were external cholesterol, fat intake, energy intake. Low intake was in fibre, some vitamins and minerals. Recommended daily allowances were exceeded more frequently in the males group, particularly fat, cholesterol and proteins intake.

Considering obese group of students - they have no significant difference between total blood cholesterol, but obesity “as is well known” has great impact on blood pressure increasing systolic as well as diastolic. Also obese group has a significantly higher risk concerning eating habits.

Conclusions: The results show higher cardiovascular hazard in the group of very young males and in the group of obese students, where is a high level of adaptation. The parameters are not pathological but in the comparison with the same age group of females by OR is still higher statistical risk for males. Positive correlation of external risk factors with internal biological factors shows importance of early and effective preventive measurements, particularly in the group of young „high risk persons“. The results are part of VEGA grant – Ministry of Education in Slovak Republic 1/1177/04. The factor for consideration is unique very high level of education what is making the whole examined group of medical students still less risky than the rest of population which might have lower level education, which might be influence by working stress and low level of health promotion thinking an behaviour.

Closing Remarks

(August 27, pm 12:15-12:30)

General Director & Prof. Patricia Sedo Masis (University of Costa Rica, School of Nutrition, Costa Rica)

Prof. Banwari L. Meel (President, African Society of Risk Management for Preventive Medicine, School of Medicine, University of Transkei, South Africa)

(August 27, pm 12:30-13:30) Lunch

(August 27, pm 13:30-15:30) Scientific Tour in the University of Costa Rica.