

## CHRONIC NON-COMMUNICABLE DISEASES

## **“OMICS” REVOLUTION IN MEDICINE: THE SECOND GENERATION WILL BENEFIT FROM BREAKTHROUGH IN SCIENCE (229)**

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“Omics” represents common term for a global, systematic and comprehensive approach to identification and description of the processes and pathways involved in cell functioning. “Omics” techniques include and structural and functional genomics, proteomics, glicolipidomics, metabolomics. As the comprehensive approach, “omics” is characterised by high-throughput or large-scale experimental methodologies combined with statistical and computational analyses of the results. The fundamental strategy of functional genomics and proteomics, as a major “omics” methods, is to expand the scope of biological investigation from studying a single gene or protein to studying all genes or proteins collectively in a coordinated and systematic fashion. It is estimated that approximately 30% of the open reading frames in a fully sequenced organism have unknown function at the biochemical level and are unrelated to any known gene. This is the reason for an increased interest of researchers who have recently started to shift from genome mapping and sequencing to determination of genome function using the functional genomics toys. This approach is very promising as it rapidly narrows the gap between the sequence and its function and yields new insights into the functioning of the biological systems. “Omics” approaches are the beginning in providing new and profound insights into human biology which opens the potential for developing new effective interventions in both prevention and treatment of human diseases. The recent advances in array technologies accelerates the translation of “omics” methods to clinical applications. For example, some expression “signatures” of genes were shown to be excellent predictors for development of metastatic disease, as shown in many studies across different array platforms and are now being validated in large prospective studies. These, as well as other microarray-based studies offer enormous potential for improved health care in cancer patients and, generally, for a variety of human diseases. Finally, “omics” provides powerful tools for studying the samples of the greatest clinical relevance. In general, these studies have emphasised the potential of technology for biomarker discovery, as well as for addressing the issues of cancer heterogeneity, new classification, early diagnosis and new therapeutical targets. New generation will certainly benefit from these new and powerful technologies.

*Key words: functional genomics, presymptomatic diagnostic, new therapeutical approaches*

## **YOUNG ADULTS WITH SERIOUS CONGENITAL HEART DISEASE: HOW DO THEY EXPERIENCE THEIR LIVES? (81)**

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**INTRODUCTION:** Nowadays many patients with serious congenital heart disease (CHD) survive beyond childhood. It is known, that medical complications will arise. Health-related quality of life (HRQoL) and subjective health status (HS) in these patients and the correlation between HRQoL and HS with medical status is unknown. When knowing these data, counselling of the individual can be optimised.

**SUBJECTS:** Eighty-one young adults (aged 18-32) with serious CHD were randomly selected from our database.

**METHODS:** The objectives were: to evaluate HRQoL and HS in adults with not-anatomically corrected CHD and to determine the correlation between these parameters and medical status. HRQoL was determined with a dedicated questionnaire (TAAQOL\*) and HS with the SF-36. Medical status was measured with the objective medical index (cyanosis, cardiac failure arrhythmia), the Somerville index (social/ work scale) and the NYHA class (physical complaints scale).

**RESULTS:** HRQoL in serious CHD patients was significantly worse ( $p < 0.01$ ) compared to that of the general population on the dimensions: Gross Motor Functioning and Vitality. Correlations between HRQoL and medical status were poor. Patients had significantly worse ( $p < 0.01$ ) HS than the general population on the dimensions: Physical Functioning, Role Functioning Physical, Vitality and General Health Perceptions. Again the correlations between HS and medical indices were weak, but more significant than with HRQoL.

**CONCLUSION:** Patients with serious CHD experience limitations only on physical dimensions of HRQoL and HS.

Objectively measured variables are only weakly related to HRQoL. This stresses the need for using dedicated questionnaires for this group of patients as a medical routine.

*Key words: health related quality of life, congenital heart disease, young adults (18-32 years)*

# **LEARNING WITH IT: HOW PUPILS IN MUNICIPALITY SCHOOLS WITH INTELLECTUAL DISABILITIES LEARN (142)**

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The purpose of this paper was to analyse intellectual disabled pupils' experiences from learning with IT and their perceived benefits from participating in an intensive IT learning programme during a period of eighteen-month.

An intervention study was carried out using pre, middle and post questionnaire. Three municipality schools and a sample of 41 intellectual disabled pupils from special classes participated in the pre investigation and 25 intellectual disabled pupils in the post investigation. Pupils with special needs who did not attend special classes did not participate. The questionnaires were handed out to the teachers who answered on behalf of the children.

The results were categorised into three themes: basic skills, practical skills and learning and communication skills. The overall results showed that the pupils had increased their skills in all the categories including those, which seemed to be too complicated to use within the scheduled time.

*Key words: schoolchildren, disabled, IT, communication, learning, intervention*

## **HEADACHE - ONE OF THE MOST COMMON SYMPTOMS IN THE SCHOOL AGED POPULATION (19)**

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**PURPOSE:** We want to present the headache as a most common symptom in a school aged patients, the reasons for the appearing and its characteristics.

**MATERIALS AND METHODS:** Patients were followed in a three years period (2001-2004). They were in age from 7 - 26. We use the anamnesis, physical, laboratory, microbiological, x – ray, neurological, ophthalmologic and other findings.

**RESULTS:** Classification was made by the age, season and between male and female. 361 cases with headache were discussed. We noticed 122 cases in 2002, 138 cases in 2003 and 101 cases in 2004. 40 % ( 143) were male and 60 % ( 218) female. From 7-9 were 6%(22), 10-14 were 42%(150), 15-19 were 44%(160) and 20-26 were 8%(29). In the first trimester with 26%(94), second trimester with 22%(80), third trimester with 18%(65) and fourth trimester with 34%(122).

**CONCLUSION:** The headache incidence was higher at females, in age from 10-19 and in the fourth trimester of the year. The most common causes of headache (70%) were: migraine and migraine variants and psychogenic or stress headaches. Less common causes (28%) were: refractive errors, sinusitis, otitis, anaemia, teeth problems, traumatic injuries, postural, menstrual disorders and diets. Very less common causes were: hypertension (5 cases), ophthalmic herpes zoster (2 cases), cerebral AV malformation (1case) and cerebral tumors (2 cases). Our intention was preventing the headache - systematical examinations, hygienic measurements, like sleeping hygiene, spending time on fresh air, sport recreation, physical treatment, and psychologist consultations. The patients were treated etiologically and symptomatically. Removing the headache reasons and successful headache treatment, is necessary for the normal growth and development, normal psychophysical activity and normal live.

*Key words: headache*

# **DEVELOPMENT OF GUIDELINES IN SCHOOL HEALTH CARE: WASTED EFFORT WITHOUT IMPLEMENTATION PLAN? THE FLEMISH EXPERIENCE WITH THE EARLY DETECTION OF VISUAL IMPAIRMENTS IN SCHOOLCHILDREN (174)**

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**INTRODUCTION:** Since 2000, and on the authority of the Ministry of Health, the Flemish Scientific Society for Youth Health Care has been engaged in the development of evidence-based guidelines for school health care. In the year 2003 the first completed guideline, which is related to the early detection of visual impairments in schoolchildren (3-18 years), was endorsed by the Flemish Health Administration and the Department of Education. Since then it is accepted as the standard for good visual screening practice in School Health Care. To achieve the goals of this guideline a well-established strategy of implementation was considered of great importance.

**METHODS:** In preparation of this process of implementation a detailed strategy has been outlined, derived from a Dutch concept. The Flemish implementation strategy consists of a five-step-plan in which the specific contribution of the collaborating partners, i.e. Health Administration/Department of Education, management and professionals of the Pupil Guidance Centers, and the Flemish Scientific Society for Youth Health Care, was clearly defined. These steps, each comprising several items, are the following: 1/ Publication and spreading of the guideline; 2/ Formal adoption of the guideline by the Pupil Guidance Centres; 3/ Training of professionals and the organisation of a supportive service for group-purchasing of test materials; 4/ Implementation of the recommendation in daily school health care practice; and 5/ Long term application of the guideline.

**RESULTS:** In September 2004, the implementation process of this first guideline started in all Flemish Pupil Guidance Centres. By the end of June 2005 the targets of step 1 and 2 of the process were attained, and by means of a Flanders-wide “train-the-trainer” program important progress was made in the achievement of step 3 and 4. Aims and detailed outline of this program will be presented. Furthermore, we will show the available evaluation results and clarify the strengths and weaknesses of the full implementation path.

**CONCLUSION:** Improving the quality of “school health care”-practice by the development of evidence-based guidelines is of great importance. However, this appears to be a waste of time and effort when not followed by a well-established strategy for the implementation of these guidelines. School Health Services in other European countries might take advantage of the Flemish experience. (Study supported by the Flemish Government)

*Key words: vision screening, prevention, guideline, implementation*

## **ALARM TREATMENT IN CHILDREN WITH DAY- AND NIGHT-TIME INCONTINENCE IS SUCCESSFUL (64)**

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**INTRODUCTION:** The aim was to assess effect of alarm treatment in children with day- and night-time incontinence for urine.

**SUBJECTS AND METHODS:** 37 consecutive children (25 boys and 12 girls) of parents who rented an Elther© enuresis alarm, all of whom suffered from both day- and night-time incontinence, were compared to 21 boys and 16 girls with only night-time incontinence. In both groups, age ranged from 5 to 13 years. Inclusion criteria: at least two wet nights a week in the past 4 weeks. The alarm was used until dryness was reached or the parents finished the treatment. Parents completed a diary. Results were analysed using SPSS 10.0.

**RESULTS:** Sixty-five percent of children with day- and night-time incontinence became dry at night (average time needed 49 days, range 22-134 days). Seventy-six percent of children in the group with only night-time incontinence became dry at night (average time needed 52 days, range 22-121 days). No significant differences were found between success percentages for the two groups or between different ages in the two groups.

Of children with day- and night-time incontinence who became dry at night after alarm treatment, 42% also became dry during daytime.

Two years after alarm treatment 15 of 16 traced children who became dry at night-time are still dry at night and all 10 traced children who became dry at daytime are still dry during daytime.

**DISCUSSION:** The prevailing opinion that children with day- and night-time incontinence should be referred to a hospital to cure the daytime incontinence before the night-time incontinence. Contrary to this opinion, children with day- and night-time incontinence can be cured of bedwetting with normal alarm treatment, just like children with night-time incontinence. Even more surprisingly, some of them also became dry during daytime. Consequently, children with day- and night-time incontinence can be first-line treated with an enuresis alarm for bedwetting. This can be advised in Youth Health Care.

**CONCLUSIONS:** Like children with night-time incontinence, the majority of children with day- and night-time incontinence become dry at night with an enuresis alarm and often also become dry at daytime. The results are good compared to the spontaneous cure rate of 15-18% each year. On the basis of these results professionals of Youth Health Care can advise children with day- and night-time incontinence to use alarm treatment first.

*Key words: bedwetting, day-time incontinence, night-time incontinence, enuresis, alarm treatment*

## **THE IMPORTANCE OF EARLY INTERVENTION IN CHILDREN WHO STUTTER (224)**

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Stuttering is a developmental speech disorder. According to DSM-IV approximately 95% of stuttering occurs by the age of seven. The incidence of stuttering is generally believed to approximate 4 to 5% of the general population, whereas its prevalence at any given time is substantially lower, ranging from 0.5 to 1%. This discrepancy indicates that stuttering persists in fewer than half of those ever affected. The definition of stuttering that physicians refer to most often is the one in DSM IV. It concentrates on disturbance in the normal fluency and time patterning of speech. This is a useful starting point, but it tends to ignore the psychological factors such as frustration, anxiety, fear, etc., which in adolescence and adulthood may lead to a lifestyle where speaking can often be avoided. There are several critical periods for its onset. One of the most referred to is when a child enters kindergarten and more especially when entering school because inadequate readiness and differences between children's abilities and adults' aspirations might lead to stuttering. The physician is often the first professional to whom parents turn for help when their child's speech becomes dysfluent. Because about half of all cases of stuttering begin gradually and early stuttering may come and go in cycles, an appreciation of the differences between normal developmental speech disfluency and potentially chronic stuttering enables the physician to refer to speech therapists in a timely manner. Insufficient knowledge of the problem results in the famous sentence that the child will «grow out» of it, which is true for up to 80% of cases. For the 20% left untreated, dysfluencies may develop into a chronic stuttering. According to the literature, improvements in the fluency of young children who stutter during treatment last longer, require fewer hours of treatment and more often result in permanent remissions of stuttering than do those reported for older children and adults. Furthermore, more children (86%) were reported to have “recovered” when their treatment was initiated within 15 months of onset than were those whose treatment began some time later (73%), so it is possible that the delay in initiating a treatment might be related to its outcome. By early identification and intervention we can do a lot to prevent stuttering being a life-long burden for all those who experienced dysfluent speech in childhood. By providing proper help we can ensure better quality of communication and life for all those who stutter.

*Key words: stuttering, prevention, early intervention, children, wellbeing*

## **SUDDEN CARDIAC DEATH DUE TO PHYSICAL EXERCISE IN MALE ADOLESCENTS (17)**

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**INTRODUCTION:** Health-related incidents during or immediately after physical exercise are very scarce in healthy individuals. The most common reasons in young individuals are various cardiac diseases. The aim of this retrospective study was to analyze causes and characteristics of sudden cardiac deaths that occurred in adolescents during or after physical exercise in a five-year period in Croatia.

**CASE REPORTS:** Six sudden cardiac deaths in male adolescent boys (age 14-18 years) were detected in a 5-year period. Three of the boys had been engaged in physical exercise at school, one as a professional soccer player, one in swimming recreationally, and the sixth had just finished secondary school and was working at the site. Five of them were autopsied and four have had congenital cardiovascular diseases. Two had hypoplastic coronary arteries; one of them had in addition acute bacterial inflammation of tonsils, narrowed aorta and subacute myocarditis. The third had hypertrophic cardiomyopathy with interventricular wall of 40 mm. The fourth had normal heart findings including coronaries, bilateral pneumonia with a possible altitude (non-cardiogenic) pulmonary oedema. The fifth had congenital aneurysm of the left ventricle. The sixth, who had not been autopsied, had a suspicion on congenital pulmonary valvular stenosis and an ostium primum atrial septal defect with mitral valve insufficiency. None of the six had reported definite symptoms at exertion.

**DISCUSSION:** According to this data, the death rate in boys and adolescent males in Croatia in secondary schools during or after recreational physical exercise was 1.2/100 000 per year or 6/500 000 in five years. Thorough preparticipation medical examination including indicated laboratory tests and avoidance of heavy exertion at the time of respiratory infection might have helped to avoid some of the lethal events.

**CONCLUSION:** These findings support the notion that adequate medical control is an essential safety measure for athletes.

*Key words: sudden cardiac death, adolescents, physical exercise, congenital heart diseases*

## ALLERGIC STUDENTS AND VOCAL SYMPTOMS (51)

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**INTRODUCTION:** About 20% of Finnish students have allergic rhinitis and 5% have asthma. Severe allergic rhinitis is treated with immunotherapy. Most common allergens in this treatment are pollen from trees (birch/ alder) and grass. Our previous studies showed that about 20% of teacher students have voice disorders. The purpose of this study was to explore the prevalence of voice disorders among students who have severe allergic rhinitis and who are treated with immunotherapy.

**SUBJECTS:** Allergy group consisted of 39 students who get immunotherapy treatment against pollen from trees. Control group consisted of 54 students visiting dental care. All students were studying various subjects at the University of Turku. As to age and gender there was no significant difference between the two groups.

**METHODS:** All students answered to a questionnaire concerning vocal symptoms. There were questions about prevalence of vocal symptoms, quality and character of symptoms. The subjects in allergy group also answered to questions about their allergy.

**RESULTS:** The results of this study showed that subjects in the allergy group reported significantly more vocal symptoms than the subjects in the control group. In the allergy group 33% of students reported two or more symptoms weekly or more often while only 11% of students in the control group reported that. One interesting result of this study was that immunotherapy for allergy might reduce vocal symptoms

**DISCUSSION:** Allergy is commonly considered to be a risk factor for voice disorders.

Nowadays is taught, that rhinitis and asthma represent components of a single inflammatory airways disease “one-airway-one disease hypothesis” so there might be inflammation in larynx too. Allergy should be properly diagnosed and treated.

**CONCLUSION:** Students with severe allergy have more vocal symptoms than students in a control group. We suggest that persons with severe allergy should be examined for possible voice disorders at least if they study for vocally demanding occupation.

*Key words: allergic student, voice disorder, immunotherapy*

## **PROJECT MANAGEMENT PLANE ON DECREASING THE SPINAL DEFORMATION AT SCHOOL-CHILDREN POPULATION (68)**

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**INTRODUCTION:** from our ten years following and recording data base of the ordinary systematic examination on the school-children population as a target group, we detected and evaluated the problems which perform to increasing the percent of the spinal deformation (scoliosis and kyphosis) at school-children population.

**SUBJECTS:** decreasing the percent of the scoliosis and kyphosis at school-children population by 50% from 27% (2002 y.) to 14% by next 5 years.

**METHODS:** those problems became the objectives, which pass through the method of the Project Cycle Management and Logframe Matrix now are priority.

**RESULTS:** the spinal deformation high percent (27%) is result of the problems from the natural, subjective and objective factors: idiopathic (genetic), faulty posture and malnutrition, uncomfortable school furniture, not enough physical activity and sporting, low level of knowledge about scoliosis and kyphosis and corrective gymnastic by medical staff and school-gymnastic teachers, failure coordination between medical staff and school-gymnastic teachers for improving corrective gymnastic exercises, improperly screening by the medical staff, weak feed-back information between the doctor from preventive health care - orthopaedic doctor - family doctor, parent's failure knowledge for their children's disorder and understanding the important of in time detecting and implementation the corrective gymnastic exercises.

**DISCUSSION:** this project management plane shows us the successful of this offer strategy to reach the main objective. This feasibility study is appraisal of relevance, feasibility, efficiency and sustainability and lead to cost benefit of the target group. It has the objective of giving stakeholders the opportunity to share in the process on decreasing the burden of the spinal deformation, and lays out the approaches and activities to be undertaken.

**CONCLUSION:** decreasing the percent of the spinal deformation at school-children population becomes priority to getting healthy youth population. This project management plane is start point to making a main Management project for further activities on national level to organize a National Center for spinal deformation.

*Key words: scoliosis and kyphosis, Logframe Matrix, corrective gymnastic, P.C.M.*

## DERMATOMYOSITIS WITH PULMONARY FIBROSIS – A CASE REPORT (71)

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The aim of study is to present rarely case with dermatomyositis at 10 years old school –girl and its diagnostic difficulties.

In the start of disease occurrence hummer-scapular and Para vertebral pains with muscle weakness, later following up with dysphagia and dyspnea a cause of affection of esophagus and intercostals muscles and occasional abdomen pains. Dermal changes are manifested with erythematic plaque localized on extensor side of hand and fingers. We also could remark spindle –shaped oedema with alabaster exfoliation at interphalanx joints. At face and nose is appeared violet-livid eczema with butterfly frame and occasionally persisted slightly oedema at upper eyelid. Calcinosis cutis is manifested by firm yellow or flesh-colored nodules, localized often over bony prominences. The main condition of child after four month of beginning of disease is aggravated with progressive muscle weakness at muscles of hands and arms and progression to paralytic steep. At sixth month is developed interstitial pneumonitis, which late progrediate in pulmonary. Enclosing diagnosis of disease were markedly elevated sedimentation, progressive elevation of value of serum transaminases ,lower values of functional lung analysis, typical .EMG and muscles biopsy with typical and specific findings confirmed the diagnosis of disease. After providing the diagnoses were conducted high doses of corticosteroids unfortunately without clinical response. At progression of disease to interstitial pneumonitis, pulmonary fibrosis and lung hypertension was conducted cytostatic and immunosuppressive treatment with methotrexat when were observed remission of disease with periodical not lasting recidives.

At our study is presented a case report with rare sub acute form of dermatomyositis with partially attendance of main criteria for diagnostic providing. Complication of disease with persisted interstitial pneumonitis and developing of pulmonary fibrosis and cardiac involvement are worse prognostic signs.

*Key words: dermatomyositis, children, pulmonary fibrosis*

## **WOLFF - PARKINSON - WHITE SYNDROME AS A FACTOR FOR OFTEN SUPRAVENTRICULAR PAROXYSMAL TACHYCARDIA WITH HAEMODINAMIC INSTABILITY (72)**

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Presentation of case report of 7 years old boy with often supraventricular paroxysmal tachycardia resistant of drugs therapy.

WPW syndrome is accidentally detected with electrocardiography at the time of evaluation of systolic murmur, heard during systematic examination. On auscultation was heard systolic murmur at II grade by Levine located over pulmonary valve and at the upper left sternal border at second or third intercostal space. The patient was hospitalized for investigation at cardiological clinic in Skopje where the diagnosis was confirmed. Echocardiography discovered attendance of atrial septum defect. At 10 years age, patient obtained first attack of supraventricular paroxysmal tachycardia following with palpitation, chest pain, vomiting, dizziness, dyspnea, and cyanosis and fainting. The child many time obtained severe attack of supraventricular paroxysmal tachycardia at beginning treated with amiodaron and later conducted propafenon with less or more efficiency. Two time cause of effect less treatment must applied synchronies DC cardioversion. Very often attack of supraventricular paroxysmal tachycardia contributed for electro-physiological study. Were put electrode catheters in coronar sinus and in high right atrium, Hiss, right ventricle and ablation. Clinical tachycardia inducted spontaneous and with programmatic and continuous stimulation. Attempt for RF catheter ablation of Kent fiber was not performed cause of technical default and young age of patient and its is recommended later. To the present time patient is taken treatment of propafenon and metoprolol. The patient still get attacks of supraventricular paroxysmal tachycardia sometimes.

Many cases of WPW Syndrome with or without supraventricular paroxysmal tachycardia have good prognosis. Very rarely attack of supraventricular paroxysmal tachycardia are long-lasting and decompensatory, have not expected treatment replying like was in presented case.

*Key words: WPW syndrome, supraventricular paroxysmal tachycardia*

## CRYPTORCHIDISM AND DYSLALIA - ASSOCIATION OR COINCIDENCE (91)

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**INTRODUCTION:** Cryptorchidism is a frequent congenital anomaly easily detected by routine systematic examination of children. Dyslalia is a pronunciation disorder. Incidence of cryptorchidism in population is 2, 29% among boys and incidence of dyslalia is 5, 9-6, 1% among boys, and 2, 9-3, 2% among girls. The cause is attributed to numerous etiological factors. It is commonly found associated with different genetic diseases.

**SUBJECTS:** The aim of this study is to show the association between cryptorchidism and dyslalia.

**METHODS:** A group of 2,630 boys, who live in the Vinkovci region and attend elementary school (seven years old boys), was examined.

**RESULTS:** The prevalence of cryptorchidism and association with dyslalia were observed. Cryptorchidism was found in 4.45% of the boys. It was mostly an isolated finding (59.83%), whereas dyslalia was found in 28.21% of the boys with cryptorchidism ( $p < 0.05$ ). Anomalies of refraction and innocent heart murmur were associated with cryptorchidism ( $p < 0.05$ ).

**DISCUSSION:** The aim of this study is to show the association between cryptorchidism and dyslalia. During the follow up it has demonstrated statistical significance.

**CONCLUSION:** Boys with impaired speech should undergo careful genitalia examination, looking for cryptorchidism. The ultimate goal is early revelation and treatment of this anomaly.

*Key words: cryptorchidism, dyslalia*

## PROGNOSIS OF ATOPIC DERMATITIS IN YOUNG ADULTS (130)

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**INTRODUCTION:** Atopic dermatitis (AD) is a common skin disease usually starting in childhood and often persisting in adulthood. The chronic relapsing and pruritic symptoms cause both psychosocial and economic burden. Several studies have investigated the prognosis of AD among children and teenagers, but there are not many long term follow up reports covering these questions among adults.

We investigated the factors which could predict the outcome of AD in a young adult population which was followed for 17 years.

**SUBJECTS AND METHODS:** In 1984 860 patients were clinically examined and prick and patch tested at the Department of Dermatology. 7 and 17 years later a questionnaire covering the development, localisation and severity of dermatitis and other atopic symptoms was sent. 710 patients (mean age 44.5 years) answered and were accepted for analysis. At the start of the study 455 of these patients had AD and 255 had allergic rhinitis, conjunctivitis or asthma without dermatitis.

**RESULTS:** After follow up 63% from 455 dermatitis patients still had dermatitis at both follow up occasions. From other atopics who initially had no skin symptoms 37% had developed dermatitis during the follow up. The predictive factors for dermatitis were early age at onset, positive SPT to pollens, animal epithelia and molds.

**CONCLUSION:** Constitutional factors are important in the long term prognosis of AD. Also early age at onset and the head and neck distribution of AD is a prognostic factor for persistent dermatitis. The high incidence of atopy and chronic course of dermatitis will in the future lead to greater need for healthcare services.

*Key words: atopic dermatitis, prognosis, prognostic factors, young adults*

# THE MORBIDITY OF SCHOOL CHILDREN ON PRIMARY LEVEL IN MACEDONIA AND MONTENEGRO (155)

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Healthy young generation is one of the most important issues of every country in the world. They are the future of the population.

The purpose of the paper is to present the health status of school children registered in out-patient health care services.

**MATERIALS AND METHOD:** The statistical data are obtained from the observation of annual reports published in the publications after the processing of the data. The data on smoking were obtained from the study on smoking conducted in 2002 (Macedonia), 2003 and 2004 (Montenegro) in the primary and secondary school children. The statistical method is used for data analysing.

**RESULTS AND DISCUSSION:** Schoolchildren (7-19) are 20-21% from the total population. The specific rate of morbidity is 7966 per 10000 school children in Macedonia and 14300 promilles in Montenegro. The respiratory diseases are approximately 60% of total diseases (2003).

	Macedonia		Montenegro	
	Number/10000	Rang	Number/10000	Rang
Diseases of the respirator system	4595.9	I	9409.8	I
Factors contacts with health services	705.9	II	1616.5	II
Dis.skin subcutaneous tissue	403.6	III	636.8	III
Communicable	391.8	IV		
Dis. eye/adnexa	311.3	IV		
Diseases of the digestive system	279.8	V	382.1	V

There is a trend of increasing smoking - 8,2% prevalence (13-15 years) in Macedonia. In Montenegro results of GYTS show that there are about 5% of smokers in primary school and about 20% in secondary school. Also, there is increasing trend in alcohol consumption, drug abuse, STD among school children, but also obesity, anaemia and other diseases related to nutrition.

**Conclusion:** There are differences in total numbers and morbidity rates of diseases between Macedonia and Montenegro, but the health problems of school children are almost the same. So, there is a need of cooperation and common activities for problem solving at regional level.

*Key words: morbidity, respiratory diseases, smoking, drug abuse*

## OUR EXPERIENCES WITH THE EVALUATION OF SCHOOLBAG WEIGHT (158)

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**INTRODUCTION:** The frequency of neglected postures, any vertebral disturbances among schoolchildren in our Country are high. One possible cause of the above high frequencies is the heavy schoolbags.

**SUBJECTS AND METHODS:** The members of our departments four times evaluated the weight of schoolbags in our territory. In 1976, 1980 and 1998 we could measure the schoolbags in different schools countryside, and in 2000 we made a survey in one school, we evaluated the weight of schoolbags at every schoolchildren in a whole week.

There are not available an official norm for the ideal weight of schoolbags in Hungary, we could use the known German offers: the optimal weight of schoolbag is maximum the 1/10 of the body weight of the schoolchildren.

**RESULTS:** We estimate at evaluation the results of all the 4 surveys, the overweight of the schoolbags was frequent and it was in general 1/5 of the schoolchildren's bodyweight sometimes about 1/4!

**DISCUSSION:** In 1984 the official Hungarian schoolbag standard based on our results, but unfortunately this standard is repeal at the end of 1990'.

On the base of our results some civil and grassroots organisation could propose for the Ministry of Education to create a ministerial order in the topic of schoolbag weight.

**CONCLUSION:** Fortunately our proposal was effective, from the 2006/2007 school-year a new ministerial order can allow to introduce only below 3 kilogram for full schoolbag weight all over the country and the parent organisation have the right for evaluation the results of this order regularly.

*Key words: schoolbag weight, neglected postures, vertebral disturbances, optimal weight of schoolbag, official schoolbag-weight standard*

## **ANAEMIA WITHIN SCHOOL CHILDREN IN COMMUNITY RADOVIS (212)**

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**INTRODUCTION:** The deficit of ferum is the commonest nutrition deficit and the commonest reason for anaemia everywhere in the world. Anaemia is frequent within school children, especially female population.

**PURPOSE:** The purpose of this paper is to show the movement of the percentage of the Hb within school children in the community Radovis in the period 1995-99.

**MATERIAL AND METHOD:** Data from the health files were used from the school outpatient departments for children from 7 to 14 years of age. The values of Hb made by the laboratory research done during the systematic check-ups from 1995-99, were followed. Standard statistic method was used during the work.

**RESULTS:** The data were grouped in years, in grades and according to the sex. Data were processed about values of the Hb under 10gr.% and from 10-13gr.% total number of the followed school children was 8979 out of which 51,7% males and 48,3% females. The lowest Hb under 10gr.% was in 1995, males 3,8% and females 4,2% . In this year the lowest Hb was in the first grade 7,6%. In the following years the Hb moves from 1,6% in 1998 and 0,8/5 in 1999.

**CONCLUSION:** In the largest number of cases it is quantitative and qualitative deficit in the nutrition, deficit of ferum, vitamins, albumens and minerals, necessary for proper growing and progress. With the systematic check-ups it is necessary to follow continuously, to discover and to treat the anaemias. The deficit of ferum still exists besides the better methods of its prevention, discovering and treatment.

*Key words: nutrition deficit, ferum, systematic check-ups*

## **INPATIENT MORBIDITY IN SCHOOL CHILDREN AND STUDENTS AT ZAGREB HOSPITALS 1996-2004 (220)**

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**INTRODUCTION:** School children and adolescents are the healthiest population groups, in which injuries due to specific behavioural patterns are the most common cause of morbidity. Traffic accidents are the leading mechanism of injury infliction, mostly due to reckless driving, lack of attention, or disregard of traffic risks.

**SUBJECTS:** Health statistics data on inpatiently treated individuals during a 9-year period (1996-2004) were analysed. Study population were divided into three groups: elementary school children aged 6-14; secondary school children aged 15-19; and subjects aged 20-27, including a high proportion of college/university students.

**METHODS:** The methods of descriptive statistics were used. Data on patients admitted to and discharged from the hospital for the diagnoses of injuries, poisoning, and other extrinsic causes were analysed according to years (1996-2004), age, and sex.

**RESULTS:** During the study period (1996-2004), 36563 individuals, age range 6-27, were hospitalised for the above mentioned reasons, yielding an incidence of 4062.6 individuals per year (Table 1). Sex distribution revealed a twofold male predominance (Fig. 1): 26233 male and 10330 female, i.e. 2.5 male subjects per one female subject, were hospitalised for injuries. The most unfavourable sex ratio was recorded in the 20-27 age group (M/F 72%:28%), followed by the 15-19 age group (M/F 68%:32%), whereas the lowest ratio was observed in the group of elementary school children (M/F 63%:37%) (Figs. 2-4). According to years (1996-2004), relatively parallel curves showing a slightly declining tendency were observed (Fig. 5).

**DISCUSSION:** The issue definitely offers a great potential for reducing the rate of injuring and thus of inpatient treatment. Considering the Zagreb area, a slowly declining tendency was observed during the 9-year study period, probably resulting from the numerous target activities performed by respective schools in collaboration with health care professionals.

**CONCLUSION:** Considering behavioural patterns of the study population, preventive activities should be launched through the family, school, mass media and other services, stimulating them to pay due attention to this particular population group, to protect them, to make them aware of the traffic associated risks, and to increase the level of self-protection.

*Key words: injury, inpatient morbidity, school children, students*

**ANALYSIS OF MEDICAL EXAMINATIONS IN FIFTH AND EIGHTH GRADES OF  
PRIMARY SCHOOL THROUGH THE PERIOD OF 1991/01 AND THROUGH THE  
PERIOD OF 2003/05 (249)**

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Medical examinations within the program of protection measures for school children and youth are a significant part of the prevention work. The first exemption is carried out when children enter the primary school system, second in the puberty - fifth grade and final examination in the eighth grade of primary school.

Pupils in the first grade of secondary school and students enrolled at the universities undergo one medical examination at each stage.

This work analyzes medical examination results of fifth and eighth grades through four generations: two from 1999 to 2001 and two from 2003 to 2005. The first group of examined pupils includes 924 fifth-graders and 923 eighth-graders. There are 918 fifth-graders and 946 eighth-graders examined in the second group.

The result analysis shows a significant increase in refractive anomalies of vision and thyroid diseases in fifth and eighth grades of recent generations 2003/2004 and 2004/2005 while the other results are within the frame of generation variability.

Medical examinations of school children and youth give us an insight in children's health at certain moment but real values can be seen in longitudinal health monitoring of examined children and possibilities of prevention before health has been seriously undermined.

*Key words: medical examination, children's health, longitudinal health monitoring*

## EPIDEMIOLOGICAL CHARACTERISTICS OF CHILDHOOD AND ADOLESCENCE EPILEPSY IN LABIN AREA, CROATIA (227)

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**OBJECTIVE:** To estimate the incidence and prevalence of epilepsy during childhood and early adult life in the Labin area, eastern Istria, Croatia. **DESIGN:** Retrospective epidemiologic study of children with epilepsy born in Labin area, eastern Istria, Croatia. **SUBJECTS:** People with epilepsy developing at or before age 19, whose first seizure happened between January 1986 and January 2005. **MAIN OUTCOME MEASURES:** The age at onset, incidence, and prevalence of childhood and adolescence epilepsy. **RESULTS:** 54 young people had a confirmed diagnosis of epilepsy during their first 19 years (27 girls and 27 boys, sex ratio F/M 1.00). For both sexes the mean onset age was  $7.6 \pm 7.4$  years:  $7.3 \pm 6.1$  among girls and  $7.8 \pm 8.4$  among boys. The mean annual incidence during the period 1986-2005 was 47.56 per 100.000 children (95% confidence interval 35.72 to 62.05). Girls were more frequently affected than do males: 48.52 per 100.000 (95% confidence interval 31.97 to 70.59) vs. 46.64 per 100.000 (95% confidence interval 30.73 to 67.85). In both sexes the incidence was the highest in the age group 0-4 (78.62 per 100.000, 95% confidence interval 46.60 to 124.25), and the lowest in the age group 10-14 (22.84 per 100.000, 95% confidence interval 9.18 to 47.06). The prevalence of active epilepsy at age 0-19 at March 31st, 2005 was 4.56 per 1000 (2.86 to 6.89) in both sexes: 5.03 per 1000 (2.60 to 8.76) in girls and 4.10 per 1000 (1.97 to 7.53) in boys. **CONCLUSIONS:** Epilepsy is perceived as a social stigma and children (as well their parents) fool it when they sign up for school. It is necessary to review all medical records/histories because a correct evidence. This research found a high percentage of West syndrome (7.4%). We were not able to explain the reason for this evidence.

*Key words: adolescence, epilepsy*

## ENURESIS – HOW PARENTS SEE THE PROBLEM (256)

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Enuresis is a problem that troubles both children and their parents. It limits child's every day activities, social integration and effects child's self-esteem.

GOAL: To investigate whether the parents of children enrolling and attending 1st grade primary school are familiar with nocturnal enuresis problem and if they are what is their point of view.

PARTICIPANTS: In the random stratificated sample there are children enrolling or attending 1st grade primary school in four large cities (Zagreb, Split, Osijek, Rijeka).

METHOD: The questionnaire with presented answer choices was given to parents of children enrolling or attending 1st grade primary school. The questionnaire had 12 questions regarding the problem in children, their families and coping with eventual problem.

RESULTS: In the random stratificated sample there are 1213 children, 42,1% from Zagreb, 26,6% from Split, 18,5% from Osijek and 12,7% from Rijeka. There was 1,3% invalid questionnaires.

Of all participants there are 36,2% 6-year-old children and 63,9% 7-8-year-old children, 51,5% are boys and 48,5% are girls.

To question: „Does your child still have nocturnal enuresis problem?“, 7,7% of parents answered yes and 4,3% of parents did not answer the question. Nocturnal enuresis frequency in boys is 10,1% and in girls is 6,1%. Of all children with enuresis problem 40,0% wet their bed once a week and 40,1% three or more times a week. 20,1% bed-wetter have positive family history: 18,9% have a brother, 17,6% a sister, 20,0% a mother, 16,4% a father, 3,7% a grandmother, 4,5% a grandfather, 18,9% a close relative who had nocturnal enuresis problem. Positive family history have 10,6% boys and 9,2% girls. Enuresis is not considered a problem for 78,8% parents of enuretic children. 10 children (3,1% children) who are enuretic use drugs, 6 (66,7% children) use desmopressin. Parents consider that it is important for their child to overcome the nocturnal enuresis problem foremost due to low self-esteem (87,9%) and insecurity (88,5%).

CONCLUSION: In tested population 7,7% of children of age 6-8 have nocturnal enuresis problem, more often in boys (10:6). 60,1% of children with this problem wet their bed two or more times a week. Family history is positive in 20,1% of enuretic children, more often in boys. For most parents enuresis is not a problem, according to that, only 3,1% of children use drugs, at the same time parents consider enuresis effects child's self-esteem.

*Key words: nocturnal enuresis, children, parents' view*

# **BEDWETTING (NOCTURNAL ENURESIS) AMONG ELEMENTARY SCHOOL FIRST GRADE STUDENTS (205)**

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**INTRODUCTION:** Nocturnal enuresis (bedwetting) is a very stressful, emotionally and socially disruptive condition that affects many children. It is important to examine which factors play a role in their bedwetting and what treatment and interventions parents use.

**AIM:** The aim of the study was to examine the prevalence of bedwetting among 6-7 year old children and parents attitude towards it.

**Subjects and methods:** 380 children (179 males and 201 females) enrolling the elementary school (aged 6, 5 to 7, 5), sample from eight elementary schools from Bjelovarska-bilogorska county.

Data were collected from anonymous questionnaires completed by the parents and face-to-face interviews with children's parents focused on habits, parents' attitudes and socio-demographic issues.

**RESULTS:** The prevalence of bedwetters was 9,2% (8,9% in boys and 9,4% in girls). Family history has been found to be a strong predictor of childhood nocturnal enuresis: 31,4% of bedwetting children have a sibling with enuresis, and 68,6% of bedwetting children have a parent who had enuresis.

We found it more common in larger families and those with lower education, but found no statistically significant difference in parents' marital status, place of living (urban or rural) or order of birth.

37% of bedwetting children had urinary infections at some point. Additional day-time wetting has been reported in 66% of children with nocturnal enuresis.

Furthermore, the relationship between urinary tract infections, nocturnal enuresis and day-time wetting was investigated. There was no association between previous urinary infection and bedwetting ( $p=0.2$ ), and no association was found between urinary infections and frequency of day-time wetting ( $p=0.73$ ).

Parents listed a number of ways to treat bedwetting; the most frequently mentioned ways were punishment of the child (60%) and reducing fluid intake (34%).

77% of the parents of the bedwetting children think it has no effect on normal psychophysical development. The main reason (48,6%) why they are treating bedwetting is equality with other children.

**CONCLUSION:** Bedwetting is a common, but still neglected and unknown problem and very few parents consult a doctor. At the same time they tend to use inappropriate methods of treating it. It may be in part influenced by genetic sources, but also by many psychological, developmental and social factors.

*Key words: nocturnal enuresis, risk factors, treatment*