International publications of authors from Bosnia and Herzegovina in Current Contents indexed publications in the first half of 2012*


In Central and Eastern European countries, after abandoning communism, significant political, economic and social changes occurred, followed by the increase in income inequality and social disparity. The goal of this study was to examine the relationship between psychological symptoms and monthly income of employees in companies undergoing privatization. The study included 258 workers from seven companies undergoing privatization in the Tuzla Canton region. For the study purposes, the Brief Symptom Inventory (BSI) and a general questionnaire with questions about socio-demographic characteristics, income, and workplace, were used. Monthly income of the majority of workers (207 or 80.2%) was below the monthly income in Bosnia and Herzegovina. Workers with salaries below the average salary for Bosnia and Herzegovina have pronounced somatization, anxiety, paranoia, interpersonal sensitivity and hostility. The BSI scale yielded significant negative correlation between the level of monthly salary and the expression of psychological symptoms ($r = -0.184$, $p = 0.002$) and between the level of family income and the expression of psychological symptoms ($r = -0.123$, $p = 0.024$). Based on the study results, it was determined that socio-economic factors such as the level of salary and total family income and job insecurity, educational level, marital status and gender may be predictors of psychological symptoms.


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Many new computed tomography (CT) techniques have been introduced during the recent years, one of them being CT-assisted dynamic perfusion imaging (perfusion CT, PCT). Many concerns were raised when first cases of deterministic radiation effects were reported. This paper shows how radiochromic films can be utilised as passive dosemeters for use in PCT. Radiochromic dosemeters undergo a colour change directly and do not require chemical processing. Prior to their use, they need to be calibrated. Films are placed on top and on the right side of the patient and exposed during the procedure. Readout is performed using a densitometer. Results show that average local skin doses are $0.51 \pm 0.07$ and $0.42 \pm 0.04$ Gy on top and on the lateral side of the patient, respectively. Results of the patient dosimetry (local skin doses) are consistent. This is due to the fact that each patient had the

*Data for this survey were collected from PubMed database using the keywords Bosnia and Herzegovina and 2012.
same CT protocol used for imaging (120 kV, 60 mA and C(vol) of 247.75 mGy). Radiochromic films designed for interventional radiology can be effectively used for local skin dose measurements in perfusion CT. Dose values obtained are below the threshold needed for deterministic effects (erythema, hair loss, etc.). These effects might happen if inappropriate CT protocol is used, one that is usually used for routine imaging.


Specialist Office in Pediatrics, School of Medicine, University of Split, Trogir, Croatia; Academy of Sciences and Arts of Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina; Department for Research and Education, University Clinical Center Tuzla, Tuzla, Bosnia and Herzegovina; City of Zagreb, Zagreb, Croatia; University Hospital “Sestre Milosrdnice”, Children's Hospital Zagreb, Zagreb, Croatia; Department of Family Medicine, “Andrija Stampar” School of Public Health Medical School, University of Zagreb, Zagreb, Croatia; School of Medicine, University of Split, Split, Croatia

AIM: The aim of the study is to assess the association of overweight/obesity and early menarcheal age.

PATIENTS AND METHODS: The study comprised 2127 healthy girls aged 9 to 16 years. Menarcheal age was estimated by status quo method. The girls’ body weight and height were measured and their body mass index (BMI) calculated. The diagnostic criteria of the WHO were used to define overweight and obesity. Girls with a BMI in the range of 1-2 for age and sex were considered overweight. Girls with a BMI >2 standard deviation (SD) for age and sex were considered obese. Girls with a BMI >1 SD for age and sex were considered overweight/obesity. Social and economic status was analyzed according to years of education completed, parents’ occupations, and the number of children in the family. RESULTS: Median menarcheal age was 12.83 years; 25% girls had menarche before 11.98 years and 75% by 13.69 years. By 11.21 years, 25% girls had had menarche, and 95% by 14.91 years. Girls who had menarche before 11.98 years had significantly higher BMI values than girls with menarche after 13.69 years (18.94 vs. 17.84 kg/m2) (p=0.003). CONCLUSIONS: Girls who experienced early menarche are significantly more often overweight/obese. Overweight/obesity may be considered as one of the predictors for the early occurrence of menarche.


Faculty of Science, Mathematics and Education, University of Mostar, Mostar, Bosnia and Herzegovina.

Strength of religious faith (SRF) is rarely studied as a protective factor against substance use and misuse in sports. Herein, we studied the potential buffering effect of the complex socio-educational, sports, and religiousness factors in the protection against substance use and misuse, including cigarettes, analgesics, appetite suppressants, potential doping behavior, and binge drinking. The sample of subjects included 40 high-class female athletes (22-26 years of age). Using a strictly anonymous questionnaire, we investigated different social, educational, and sports factors (including SRF measured by the Santa Clara Strength of Religious Faith Questionnaire) in relation to substance use and misuse. Following the calculation of simple correlations, multiple regression analysis revealed that in combination with low sports experience, SRF has a significant buffering effect against binge alcohol drinking and consumption of appetite suppressants. The data are discussed in comparison with previous findings and theoretical background. Future studies should study the topic while observing samples of recreational and competitive athletes of both genders.


Division of Pharmacology, LACDR, Leiden University, Leiden, The Netherlands; Department of Clinical Pharmacy, St. Antonius Hospital, Nieuwegein, The Netherlands; Centre for Clinical Pharmacology, University Hospitals Leuven, Leuven, Belgium; Institute of Pharmacology, Clinical Pharmacology and Toxicology, Faculty of Medicine, University of Sarajevo, Sarajevo, Bosnia Herzegovina; Neonatal Intensive Care Unit, University Hospitals Leuven, Leuven, Belgium.

Aim: Propylene glycol (PG) is often applied as an excipient in drug formulations. As these formulations...
Compared with rhinologic patients without chronic rhinosinusitis (CRS), a higher prevalence of sinonasal Helicobacter pylori (HP) in patients with CRS was found. This study investigated if HP sinonasal colonization has a prognostic value for efficacy of functional endoscopic sinus surgery (FESS). Nasal polyps of 40 patients with CRS, undergoing FESS, were analyzed for presence of HP using immunohistochemistry (IHC). Patients were categorized as to whether the IHC was positive (HP+ group) or negative (HP- group). HP+ group and HP- group were compared according to the improvement (difference between pre- and postoperative scores) of the subjective symptom scores, and the nasal endoscopic scores. Nasal polyps in 28 (70%) patients were positive for HP. There were no significant differences between HP+ group and HP- group comparing the eosinophils, and the improvement of the single symptom and the total symptom scores. HP+ group had significantly greater improvement of the nasal endoscopic scores (F[1,38] = 6.212; P = 0.017). There is no influence of sinonasal HP on tissue eosinophilia and on CRS symptoms. There is a prognostic value for endonasal findings: CRS patients with HP have statistically significant greater improvement of the postoperative endoscopic scores.


Department of Otorhinolaryngology, Mostar University Hospital, Bijelj brigaj b.b, Mostar, Bosnia and Herzegovina.

Compared with rhinologic patients without chronic rhinosinusitis (CRS), a higher prevalence of sinonasal Helicobacter pylori (HP) in patients with CRS was found. This study investigated if HP sinonasal colonization has a prognostic value for efficacy of functional endoscopic sinus surgery (FESS). Nasal polyps of 40 patients with CRS, undergoing FESS, were analyzed for presence of HP using immunohistochemistry (IHC). Patients were categorized as to whether the IHC was positive (HP+ group) or negative (HP- group). HP+ group and HP- group were compared according to the nasal polyep eosinophil density, and to

may also be used in neonates, the aim of this study was to characterize the pharmacokinetics of propylene glycol, co-administered intravenously with paracetamol (800mgPG/1000mg paracetamol) or phenobarbital (700mgPG/200mg phenobarbital) in preterm and term neonates. Methods: A population pharmacokinetic analysis was performed based on 372 PG plasma concentrations from 62 (pre)term neonates (birth weight (Bbw) 630-3980g, postnatal age (PNA) 1-30days) using NONMEM 6.2. The model was subsequently used to simulate PG exposure upon administration of paracetamol or phenobarbital in neonates (gestational age 24-40 weeks). Results: In a one compartment model, birth weight and PNA were both identified as covariates for PG clearance using an allometric function (CL(i) =0.0849x((Bbw/2720)(1.69)x(PNA/3)(0.201))). Volume of distribution scaled allometrically with current bodyweight (V(i) =0.967x((Bw/2720)(1.45))), and was estimated 1.77 times higher when co-administered with phenobarbital compared to paracetamol. By introducing these covariates a large part of the interindividual variability on clearance (65%) as well as on volume of distribution (53%) was explained. The final model shows that for commonly used dosing regimens, the population mean PG peak and trough concentrations ranges between 33-144 and 28-218 mg/L (peak) and 19-112 mg/L (trough) depending on birth weight and age of the neonates for paracetamol and phenobarbital formulations, respectively. Conclusion: A pharmacokinetic model was developed for PG co-administered with paracetamol or phenobarbital in neonates. As such, large variability in PG exposure may be expected in neonates which are dependent on birth weight and postnatal age.


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No abstract available.


Department of Neurology, University Hospital Mostar, Bosnia and Herzegovina.

Cardiovascular disorders in acute multiple sclerosis (MS) relapse have been infrequently reported. We present a young multiple sclerosis patient with acute onset of cerebellar symptomatology along with sinus bradycardia. Brain magnetic resonance imaging showed one lesion in the left cerebellar hemisphere which showed postcontrast enhancement and one in the midbrain without postcontrast enhancement. No cardiac pathology was found and symptoms gradually improved after a 5-day course of corticosteroid therapy. It is important to bear in mind the possibility of these rare cardiac symptoms in MS patients, because of their timely recognition and appropriate treatment.

Kulo A, de Hoon JN, Allegaert K. The propylene glycol research project to illustrate the feasibility and difficulties to study toxicokinetics in neonates. Int J Pharm. 2012 May 26. [Epub ahead of print]

Center for Clinical Pharmacology, University Hospitals Leuven, Leuven, Belgium; Institute of Pharmacology, Clinical Pharmacology and Toxicology, Faculty of Medicine, University of Sarajevo, Sarajevo, Bosnia and Herzegovina.

This paper aims to describe our propylene glycol (PG) research project to illustrate the feasibility and the dif-

Universitätsklinik für Augenheilkunde, University of Bern, Bern, Switzerland; Clinical Center of Eastern Sarajevo, Eye Clinic 'Kasindo', E. Sarajevo, Bosnia and Herzegovina.

Purpose: To evaluate 3-year follow-up treatment outcomes with ranibizumab (Lucentis® ) 0.5 mg administered either monthly or quarterly on a prre nata (PRN) basis according to a disease activity-guided monitoring and treatment algorithm. Methods: A total of 316 treatment-naive eyes of 316 patients with exudative age-related macular degeneration met the criteria for inclusion in this retrospective, interventional case series. Patients were treated with ranibizumab 0.5 mg according to a disease activity-guided algorithm with monthly monitoring. Optical coherence tomography and fluorescein angiography were routinely used to assess disease activity: active lesions were treated with a series of three monthly injections, whereas inactive lesions were treated with quarterly injections. Results: Mean Early Treatment Diabetic Retinopathy Study best-corrected visual acuity improved from 52 letters at baseline to 59 letters at 12 months, achieved with a mean of 7.1 injections, 61 letters at 24 months with a mean of 5.0 injections administered in the second year and 60 letters at 36 months with a mean number of 5.2 injections. Conclusions: Monthly visits and a morphology-driv-
In a series of papers published from 1871 to 1889, Jožef (Josef) Stefan dealt with several diffusion processes, including also multicomponent systems. In his last paper on diffusion, which appeared in 1889, he studied the dissolution-diffusion process with a moving interface, and gave an analytical solution to this problem. However, Stefan’s dissolution-diffusion analysis is not mentioned in literature, and its existence seems to be unknown in scientific community. The present paper summarizes the main Stefan ideas on dissolution of solids governed by diffusion of solute in the adjacent solvent phase thus making his results accessible to wider scientific circles.


Department of Prosthodontics, Faculty of Medicine, University of East Sarajevo, Bosnia Herzegovina.

Objective. To examine the prevalence of temporomandibular disorders (TMD) after orthodontic-surgical treatment in patients with mandibular prognathism and analyze psychosocial variables related to TMD. Materials and methods. The case-control study comprised 40 patients with mandibular prognathism who underwent combined orthodontic-surgical treatment (orthognathic surgery group). Forty-two patients with untreated mandibular prognathism served as a control group. Research diagnostic criteria for temporomandibular disorders (TMD) after orthodontic-surgical treatment in patients with mandibular prognathism and analyze psychosocial variables related to TMD. Results. The overall prevalence of TMD was not significantly different between the groups. Myofascial pain was significantly higher, while arthralgia, arthritis and arthrosis was significantly lower in the orthognathic group compared with the controls (90.5% vs 50.0%, 0.0% vs 27.8%, respectively) (p < 0.05). Females in orthognathic surgery group showed higher prevalence of TMD (p < 0.05) and myofascial pain (p < 0.01) and increased level of chronic pain (p < 0.05) in comparison with post-operative males. No significant difference in chronic pain, somatization and depression scores was found between investigated groups. With respect to presence of TMD within the groups depression was higher in untreated subjects with dysfunction (p < 0.05). Conclusion. Prevalence of TMD immediately after completion of orthodontic-surgical treatment for mandibular prognathism is similar to frequency of dysfunction in untreated subjects, is significantly higher in females and is most commonly myogenic. Furthermore, females show an increased level of chronic pain post-operatively. Somatization and depression levels do not differ between patients with corrected prognathism and untreated prognathic patients.


University Hospital Mostar, Mostar, Bosnia and Herzegovina.

We report a case of the female patient who was admitted to the hospital because of syncope experienced while climbing stairs. Diagnostic workup raised the suspicion of a right diaphragmatic rupture that was eventually confirmed by surgery (right-sided thoracotomy). Surgery also revealed tissue protruding through the rupture site from within the retroperitoneum that was proven subsequently to be a dedifferentiated liposarcoma. Second surgery was performed to completely remove the liposarcoma tissue and repair a coincident old right lumbar region hernia. The patient recovered fully. Spontaneous rupture of the diaphragm is rare and this is especially true for the right hemidiaphragm. We report the first case of diaphragmatic rupture caused by local infiltration by a retroperitoneal liposarcoma. This and similar reports emphasise that in cases with high clinical suspicion of diaphragmatic rupture, diagnosis should be pursued even in the absence of a preceding traumatic event.


Department of Process Engineering, Faculty of Technology, University of Tuzla, Univerzitetska 8, Tuzla, Bosnia and Herzegovina.

This study aimed to monitor the process parameters and to determine kinetics in composting of organic fraction of municipal solid waste (OFMSW) and poultry manure. The experiments were carried out with three different mixtures. The results showed that the mixture 60% OFMSW, 20% poultry manure, 10% mature compost and 10% sawdust provided the most appropriate conditions for composting process. Using nine kinetic models and nonlinear regression method, kinetic parameters were estimated and the models were analyzed with four statistical indicators. Kinetic models with four measured variables proved to be better than models with less number of measured variables. The number of measured experimental variables influences kinetics more than the number of kinetic
The model is more suitable for data obtained from composting of mixtures with much higher percentage of OFMSW than percentage of poultry manure.


Poča Medical Faculty, University of East Sarajevo, Sarajevo, Bosnia and Herzegovina.

BACKGROUND/AIMS: The aim of this study was to find out the prevalence of the most frequent risk factors for chronic kidney disease (CKD) and the prevalence of urinary abnormalities in adult inhabitants of three Balkan endemic nephropathy (BEN) villages near Bijeljina, Bosnia and Herzegovina. METHODS: The survey consisted of an interview, blood pressure measurement, and urine dipstick test for proteinuria, hematuria, and glycosuria. RESULTS: The study involved 1625 (739 males, aged 51 ± 16 years) subjects: 319 (19.6%) with positive family history for BEN, 585 (36%) with hypertension, 604 (37.2%) above 60 years, 146 (9%) with diabetes, and 566 (34.8%) with none of these risk factors. Proteinuria was present in 6.2-7.1% of the subjects with risk factors for CKD but in 3.4% of those without risk factors. Systolic blood pressure and BEN in brother/sister were found to be significant variables associated with proteinuria, but female gender and history of kidney disease with hematuria. CONCLUSION: In addition to a family burden for BEN, other risk factors for CKD were highly prevalent in BEN villages of the Bijeljina municipality. The frequency of proteinuria was higher in the at-risk group than in the group without risk factors and increased with the number of risk factors.


BACKGROUND: Substance abuse among adolescents is a major public health and social problem. However, studies rarely investigate the relationships between substance abuse, educational achievement and sport factors. Substance abuse is an even more significant problem in societies that have experienced trauma, such as Bosnia and Herzegovina, which have had recent wars. The aims of this study were to investigate substance abuse among adolescents in Bosnia and Herzegovina and to study the potential gender-specific relationships between a) sport factors (physical activity/exercise/athletic participation) and substance abuse and b) scholastic achievement and substance abuse. METHODS: Our sample consisted of 1,032 adolescents who were 17 to 18 years old (435 boys and 597 girls) and who were in the final grade of high school. These subjects were randomly selected from the territory of Herzegovina-Neretva Canton of Bosnia and Herzegovina. Retrospective testing was performed using an extensive self-administered questionnaire. The questionnaire included questions involving topics such as sociodemographic variables, scholastic variables, sport factors, and substance abuse data (smoking habits, drugs consumption and alcohol consumption using the AUDIT questionnaire). Descriptive statistics, frequencies, analyses of the differences and correlational analyses were performed. RESULTS: Our results found that greater than one-third of the boys and one-fourth of the girls were daily smokers, and almost half of the boys and one-fifth of the girls practiced harmful drinking; other drugs (i.e. heroin, cocaine, amphetamines, etc.) were rarely consumed. Boys dominated in sport factors, whereas girls were more successful in scholastic achievement. Approximately 23% of the boys and 6% of the girls reported that they practiced harmful drinking and smoked simultaneously. Educational failure, which was defined as having one or more negative grades at the end of the last two school years, was identified in 20% of the boys and 9% of the girls. In both genders, substance abuse was negatively correlated with educational achievement, and half of those students who failed educationally reported daily smoking. Among the girls who experienced education failure, 33% were smokers, and 22% practiced harmful drinking. Sport factors were weakly correlated with substance abuse in boys; thus, we could not support the hypothesis that sports are a protective factor against substance abuse among male adolescents. In girls, participation in team sports was related with a higher incidence of smoking, but there was no evidence of sport factors having an influence on the consumption of alcohol. CONCLUSION: In this study, the incidence of smoking and the consumption of alcohol were alarmingly high. These findings demonstrate the need for intervention programs to address these issues. These problems are particularly important, considering that substance abuse has a negative impact on educational achievement among boys and girls, and sport factors have not been found to be protective factors against substance abuse.

Smajlović I, Davoren J, Heyman P, Cochez C, Haas C, Maake C, Hukić M. Development and optimization of a PCR assay for detection of

International Commission on Missing Persons, Sarajevo, Bosnia and Herzegovina.

Hantavirus-specific serology tests are the main diagnostic technique for detection of hantavirus infection in Bosnia and Herzegovina. In order to enhance hantavirus infections monitoring a sensitive PCR based assay was developed to detect Dobrava (DOBV) and Puumala (PUUV) hantaviruses. Nested primer sets were designed within three different regions of the viral RNA (S and M segment of DOBV and M segment of PUUV) based on highly similar regions from a number of different European hantavirus strains. Assay conditions were optimized using cell cultures infected with DOBV Slovenia, PUUV Sokkamo and PUUV CG 18-20. This sensitive and specific assay has proven to be useful for detection of both Puumala and Dobrava hantaviruses.


University of Mostar, Mostar University Clinical Hospital, Department for Dermatology and Venerology, Mostar, Bosnia and Herzegovina

Incidence rate of skin tumours, both, non-melanoma and melanoma, is increasing nowadays. Various etiological factors are of relevance for the occurrence of the diseases. The solar radiation, as well, long-term exposure to ultraviolet (UV) radiation, have the greatest impact on development of these skin tumours. Non-melanoma skin tumours, Basal Cell Carcinoma (BCC) and Squamous Cell Carcinoma (SCC), are the most common skin tumours in humans, and usually develop on the chronically photo-exposed areas. As for the Malignant Melanoma (MM), one of the most aggressive skin tumours, the exposure to solar radiation also plays an important role. This study investigates the correlation between the skin tumours and UV radiation in the area of West Herzegovina, on the sample of 1676 patients. It presents the occurrence of skin tumours in the period from 1997 to 2003. The study investigates the incidence and the risk factors separately for every skin tumour which can be etiologically related to the occurrence of skin tumours and UV radiation: occupation, exposure to UV radiation, skin type, and family history on malignant tumours within the patient's family. The exact incidence rate of non-melanoma and melanoma skin tumours in Bosnia and Herzegovina is still unknown, for the reason that the united National Cancer Register does not exist yet.


University of Sarajevo, Sarajevo University Clinical Center, Heart Center, Sarajevo, Bosnia and Herzegovina.

The aim of this study was to assess the quality of life children after cardiac surgery for congenital heart disease (CHD) and to compare these results with healthy children. To assess the quality of life children after surgery for CHD we performed a cross-sectional study of 114 patients who were patients at the Department of Paediatrics in Tuzla, between the ages of 2 and 18 years, of both sexes, and with one of their parents. We used the “PedsQL 4.0 Generic Core Scales”, with both child self-report and parent proxy-reports. By self assessment, the PedsQL total scores for quality of life were statistically significantly different between children after cardiac surgery for ages 13 to 18 years and healthy children, while by parent report PedsQL total scores were statistically significantly different between children after cardiac surgery for ages 5 to 7 years and healthy children. By self assessment, children after cardiac surgery for ages from 5 to 7 and 13 to 18 years reported that they have a statistically significantly lower quality of life in the segment school functioning compared to the healthy children. By parental assessment, children after cardiac surgery for ages from 5 to 7 and 13 to 18 years have a statistically significantly lower quality of life in the segments of physical and psychosocial health, emotional, social and school functioning. The results of our study indicate that children after cardiac surgery for CHD by self and parent assessment have a lower quality of life than healthy children.


University Clinical Centre Tuzla, Department for Research and Education, Tuzla, Bosnia and Herzegovina

The primary objective of the study was to examine the relationship between generic and disease-specific HRQOL scores and metabolic control in children with Type 1 Diabetes Mellitus (T1DM). This cross-sectional study included 65 consecutive children between ages 5 and 18 years with T1DM. According to their values of glycosylated hemoglobin (HbA1C), the children were assigned to one of two groups. In Group 1 (N = 21) were the children with HbA1C values < 8%
We read with great interest the editorial article by Mesihkhes AWN published in issue 25 of World J Gastroenterol 2011. The article described the advantages of emergency laparoscopic appendectomy compared with interval appendectomy as a new safe treatment modality for the appendiceal mass. The author concluded that the emergency laparoscopic appendectomy was a safe treatment modality for the appendiceal mass, and might prove to be more cost-effective than conservative treatment, with no need for interval appendectomy. However, we would like to highlight certain issues regarding the possibility of percutaneous catheter drainage to successfully treat the appendiceal mass, with no need for appendectomy, too.


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No abstract available.


No abstract available.


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No abstract available.