Background: Pulsed dye (PDL) 595- and 1,064-nm Nd:YAG lasers have been used successfully for the treatment of infantile hemangioma (IH) lesions. Recently, the use of a topical beta blocker, specifically timolol maleate, in treating IH has represented promising treatment.

Objective: To compare the effectiveness of topical timolol 5mg/ml solution and combined sequential dual wavelengths laser in treatment of infantile hemangioma.

Patients and methods: Sixty children with IH were divided randomly into two equal groups. Group 1 was treated with applications of timolol drops (5mg/ml) twice daily. Group 2 was treated with sequential pulsed dye laser and Nd: Yag laser. Treatments were performed every month for a maximum of six sessions. Evaluation of efficacy was done clinically and by measuring the average hemoglobin level.

Results: A significant decrease in the average hemoglobin value was determined in both groups, and a dramatic response was observed in superficial hemangiomas in the timolol group. The timolol group received treatment for an average of 4.03 ± 1.13 months, whereas the laser group received laser treatment for a mean of 5.53 ± 0.88 months. Mixed hemangioma lesions scored a higher response in the laser group than the timolol group. In the three-month follow-up no further improvement or relapse was reported in either group.

Conclusion: Timolol solution is a safe and effective alternative to laser treatment in superficial hemangiomas. In mixed hemangiomas the combined sequential dual wavelengths 595nm and 1064nm laser provided better results than timolol solution as it penetrated deeply so that deep dermal blood vessels were reached.
WHAT DID WE FIND FROM IMAGING STUDIES IN CHILDHOOD UTI AND WHICH STUDIES ARE MANDATORY?

Prayong Vachvanichsanong², Pornsak Dissaneewate³, Edward McNeil²

¹Department of Pediatrics, Prince of Songkla University, Thailand
²Epidemiology Unit, Prince of Songkla University, Thailand

Background: Recently, developed countries introduced changes to guidelines related to indications for performing imaging studies for childhood urinary tract infection (UTI). The previous guideline suggested renal ultrasound (RUS) and cystogram should be performed in all cases, while the new guideline suggests the cystogram should only be performed if a RUS or $^{99m}$Tc dimercaptosuccinic acid (DMSA) renal scan finds an abnormality. There are concerns about whether these new guidelines are appropriate in undeveloped country settings.

Objective: To determine if these guideline changes would be appropriate in developing country institutions.

Methods: Medical records of UTI children aged 0-15 years admitted to Prince of Songkla University Hospital from January 2004 – December 2013 were reviewed. RUS, cystogram and DMSA scan results to determine congenital anomalies of the kidney and urinary tract (CAKUT) and/or renal damage were evaluated. Mild CAKUT was defined as primary vesicoureteral reflux (VUR) grades I-III or isolated hydronephrosis and all other abnormalities were defined as severe CAKUT.

Results: 142 boys and 129 girls had at least one imaging study after UTI. Their median (IQR) age was 1.0 (0.5 - 2.7) year; 0.7 and 1.4 years for boys and girls, respectively (p=0.006). 262 children had an RUS performed, of which 99 (37.8%) were abnormal. Cystograms were performed in 221 children, from which 83 (37.6%) CAKUTs were detected, and 108 children had a DMSA performed, of which 53 (49.1%) were abnormal. Overall, CAKUTs were detected in 148 (54.6%) children of which 43 were severe. RUS together with cystogram provided higher sensitivity (100% vs 88.9%) and specificity (53.8% vs 42.4%) to detect severe CAKUT than RUS together with DMSA.

Conclusion: A CAKUT was detected in more than half of the children with first UTI, with one third having severe CAKUT. In our setting RUS combined with cystogram is mandatory in childhood UTI, and the new western guidelines are not appropriate for our setting.
OZONE AND OTHER AIR POLLUTANTS AND THE RISK OF CONGENITAL HEART DEFECTS

Jinhu Zhao¹, Shaoping Yang¹, Bin Zhang¹, Shengwen Liang², Zhengmin Qian³, Shunqing Xu⁴, Tongzhang Zheng⁵

¹Primary Guidance Department, Wuhan Women and Children Health Care Center, China
²Environmental Monitoring Department, Wuhan Environmental Monitoring Center, China
³College for Public Health and Social Justice, Saint Louis University, USA
⁴Key Laboratory of Environment and Health, Ministry of Education & Ministry of Environmental Protection, and State Key Laboratory of Environmental Health, School of Public Health, Tongji Medical College, Huazhong University of Science and Technology, China
⁵Department of Environmental Health Sciences, Yale School of Public Health, USA

Maternal exposure to ambient air pollution has increasingly been linked to congenital heart defects (CHDs). The objective of this study was to evaluate whether high levels of maternal exposure to O₃, SO₂, NO₂, CO are related to increased risk of CHDs in Wuhan, China. We conducted a cohort study with a total of 105,988 live-born infants, stillbirths, and fetal deaths. The study included mothers living in the central districts of Wuhan during pregnancy over the two-year period from June 10, 2011 to June 9, 2013. For each study participant, we assigned 1-month averages of O₃, SO₂, NO₂ and CO exposure based on measurements obtained from the nearest exposure monitor to the living residence of mothers during their early pregnancy period. Logistic regression analyses were conducted to calculate the adjusted odds ratios (aORs) and 95% confidence intervals (CI) for the association between exposure to these ambient air pollutants during early pregnancy and CHDs. In one-pollutant model, we observed monotonically increasing associations between O₃ exposure and CHDs overall, and VSD and TF individually, and the risk increased gradually as the month of pregnancy increased. In two-pollutant model, associations with all CHDs, VSD, and TF for O₃ were generally consistent compared to the models that included only O₃, with the strongest aORs observed for exposures during the third month of pregnancy. We also observed a positive association between CO exposures during the third month of pregnancy and VSD in two pollution model. Our results contribute to the small body of evidence regarding air pollution exposure and CHDs, but confirmation of these associations will be needed in future studies.
MATERNAL EXPOSURE TO AIR POLLUTION AND RISK OF ORAL CLEFTS

Bin Zhang¹, Shaoping Yang¹, Jinzhu Zhao¹, Shengwen Liang², Zhengmin Qian³, Shunqing Xu⁴

¹Primary Guidance Department, Wuhan Women and Children Health Care Center, China
²Environmental Monitoring Department, Wuhan Environmental Monitoring Center, China
³College for Public Health and Social Justice, Saint Louis University, USA
⁴Key Laboratory of Environment and Health, Ministry of Education & Ministry of Environmental Protection, and State Key Laboratory of Environmental Health, School of Public Health, Tongji Medical College, Huazhong University of Science and Technology, China

Recent studies conducted in developed countries have found some associations between maternal exposures to ambient air pollutants exposure and oral clefts. The objective of this study was to evaluate whether high levels of maternal exposure to PM$_{2.5}$, PM$_{10}$, SO$_2$, NO$_2$, CO and O$_3$ are related to increased risk of oral cleft in Wuhan, China. We used data from a large birth cohort that includes 106,021 live-born infants, stillbirths, and fetal deaths. The prevalence of cleft lip with or without cleft palate (CLP) was 19.1 per 10,000, and cleft palate only (CPO) was 3.0 per 10,000. The study included mothers living in the central districts of Wuhan during pregnancy over the two-year period from June 10, 2011 to June 9, 2013. For each study participant, we assigned 1-month averages of first three month of PM$_{2.5}$, PM$_{10}$, SO$_2$, NO$_2$, CO and O$_3$ exposure measurements obtained from the nearest exposure monitor to the living residence of mothers during their early pregnancy period. Logistic regression analyses were conducted to calculate the adjusted odds ratios (aORs) and 95% confidence intervals (CI) for the association between exposure to these ambient air pollutants during early pregnancy and oral cleft. Using 1 month averages, we observed an increased risk of CLP with increasing PM$_{2.5}$ exposure with aORs ranging from 1.14 to 1.11 (95% CI: 1.00 -1.15, 0.97 -1.12, 1.04 -1.19 separately) per a 10 µg/m$^3$ change in PM$_{2.5}$ concentration and SO$_2$ exposure with aORs ranging from 1.50 to 1.90 (95% CI: 1.39 -1.73, 1.34 -1.68, 1.66 -2.18 separately) per a 10 µg/m$^3$ change in SO$_2$ concentration. Our study adds to the small body of knowledge regarding the association between in utero exposure to air pollution and oral cleft, and provides a rationale for the need for stringent control of air pollution to reduce PM$_{2.5}$ and SO$_2$ concentration.
DOES LASER ACUPUNCTURE HAS AN EFFECT ON FETAL WELL BEING DURING LABOR INDUCTION?

Jehan Alsharnoubi¹, Amr Elnoury², Amaal Khattab³

¹Pediatrics, Cairo University, Egypt
²Gynecology, Cairo University, Egypt
³Gynecology, Algalaa Hospital, Egypt

Background: Labor induction with traditional drugs is sometimes associated with fetal complications as fetal distress or death.

Objective: Evaluate the effect of labor induction by laser acupuncture on fetal wellbeing in post term pregnancy.

Design: Nulliparous women at 40 weeks or greater were randomized to sham laser group versus laser acupuncture group. Each session consisted of laser application on bilateral points LI4, SP 6, BL31, and BL32.

Location: Cairo University, National Institute of Laser Enhanced Sciences.

Subjects: Sixty nulliparous women were randomized into laser acupuncture group n=30 and control group n=30. Women treated in both groups in three consecutive days in post date pregnancy.

Results: (66.6 %) showed a significant difference in rate of NVD between acupuncture group (50 %) and control group (50 %) (P = 0.002). There was no significant difference of enrollment delivery time between laser acupuncture and sham group (P 0.05). Six cases of Cesarean section (C.S) due to no fetal movement with normal Cardiotocography (CTG).

Conclusion: Laser acupuncture has no effect on fetus and its effect on fetal movement needs more investigations. Laser can induce labor if the cervical length is less than 1cm and dilation (0).
ASSOCIATION OF DIFFERENT TYPES OF MILK FEEDING WITH BLOOD CULTURE POSITIVE NEONATAL SEPSIS

Anwar Muhammad1, Waheed Khawaja Ahmad Irfan1, Rehman Abdul2, Fatima Syeda Tahseen1
1Neonatology Department, The Children's Hospital and Institute of Child Health Lahore, Pakistan.
2Pediatric Department, Bahawal Victoria Hospital Bahawalpur, Pakistan

Objective: To ascertain and compare microbial growth pattern in blood culture of septic neonates who were either totally breast or formula fed.

Study Design: Cross sectional study.

Place of Study: The Children’s Hospital and Institute of Child Health Lahore, Pakistan.

Methodology: All clinically septic neonates, who were either exclusively breast fed or formula fed, were enrolled into the study. They were divided into two groups and studied for the type of organisms grown on blood culture. Group-A were breast fed and Group-B were formula fed. Neonates who were blood culture negative or had growth of multiple organisms or had incomplete data or who died/left against medical advice before completing the required data or babies receiving milk feeding from multiple sources or not feeding at all were excluded. BACTEC technique was used for obtaining bacterial growth. SPSS v19 was used for statistical analysis.

Results: Total 380 clinically septic neonates were enrolled. Each group was consisted of 190 neonates. Overall, Gram-negative organisms constituted the majority i.e. 61%. While 37% cultures grew CoNS followed by Klebsiella spp. (23.4%). Predominant pattern of organisms was also different in two groups. In group A, CoNS was predominant while in group B, Klebsiella spp. was most frequent.

Conclusion: Sepsis is more than two times higher in formula fed babies and is caused predominantly by Gram-negative organisms whilst in breast fed babies, CoNS is the most repeated organism.

Key words: feeding pattern, Neonatal sepsis, micro-organisms-
PREVALENCE OF HEPATIS C VIRUS INFECTION AMONG ASYMPTOMATIC PAKISTANI CHILDREN

Ghazanfar Ali
Paediatrics, Akhtar Saeed Medical & Dental College Lahore, Pakistan

BACKGROUND: In the current era, viral hepatic infection HCV has become widespread and is the most important reason of liver disease, world wide. This study was conducted to determine the prevalence of hepatitis C virus (HCV) infection in patients admitted in children ward and attending children outdoor, at Akhtar Saeed hospital, Lahore (a teaching trust hospital).

METHODOLOGY: In this cross-sectional descriptive study, 1358 asymptomatic patients attending department of Pediatrics were selected randomly. This study was conducted from March 2014 to March 2015. Patients of either sex, were included. The ratio of male to female was 50:50. The age ranged from 6 months to two years. Screening for antibodies against HCV (anti-HCV) was performed through Kit method and positive cases were confirmed by ELISA. Informed verbal consent was taken. Data was analyzed by using SPSS 16.0

RESULTS: Out of 1358 registered patients, 4 patient were found reactive and confirmed on ELISA. The overall sero-prevalence of HCV infection within the study period was 0.33%.

CONCLUSION: Data showed only 4 out of 1358 asymptomatic patients had Anti HCV positive. Undiagnosed, asymptomatic patients may be a basis of infectivity in many ways like by intimate individual contact with other family members. Evading unnecessary blood transfusion and injections and execution of strict infection control measures are highly recommended to trim down the frequency of HCV infection.

KEY WORDS: Hepatitis C, asymptomatic children
NO SEVERE DISPARITY IN EMERGENCY TRANSPORT TIME BETWEEN URBAN AND RURAL CHILDREN IN JAPAN

Akira Ehara
Faculty of Health Services Management, Hiroshima International University, Japan

Background: In Japan, the mean time from emergency call to arrival at medical facility is 39.3 minutes in 2013. However, the time of pediatric patients and the regional disparity between urban and rural places were unknown.

Objective: To clarify transport time of children to medical facilities and the regional disparity between urban and rural places.

Methods: Using Emergency transport patient’s database, 2012 provided by Fire and Disaster Management Agency, the Ministry of Internal Affairs and Communications, transport time for neonate, toddler and children in the 3 urban (Kanto, Chubu, and Kinki) and 5 rural (Hokkaido, Tohoku, Chugoku, Shikoku, and Kyushu) regions in Japan were calculated (Figure).

Results: The mean transport times were 38.3 minutes in neonates, 33.4 minutes in toddlers, and 35.6 minutes in children. Those in urban regions were 36.6 minutes in neonates, 32.4 minutes in toddlers, and 33.9 minutes in children, respectively. On the other hand, those in rural regions were 39.3 minutes in neonates, 33.7 minutes in toddlers, and 36.4 minutes in children, respectively (Table 1).

<table>
<thead>
<tr>
<th>Table 1. Mean Transport Time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Neonates</td>
</tr>
<tr>
<td>Toddlers</td>
</tr>
<tr>
<td>Children</td>
</tr>
</tbody>
</table>

The ratios of transport time above 60 minutes in urban regions were 10.8% in neonates, 3.7% in toddlers, and 6.1% in children, respectively. In rural regions, those in neonates, toddlers, and children were, 11.5%, 4.0%, and 4.9%, respectively (Table 2).

<table>
<thead>
<tr>
<th>Table 2. Transport Time &gt;60min (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Neonates</td>
</tr>
<tr>
<td>Toddlers</td>
</tr>
<tr>
<td>Children</td>
</tr>
</tbody>
</table>
[Conclusion] There were no severe disparities in emergency transport time in neonates, toddlers, and children between urban and rural pediatric patients in Japan.
ZINC CONTAINING "SPRINKLES" SUPPLEMENTATION IMPROVE MICRONUTRIENT LEVELS AND LOWER STUNTING RATES IN CHILDREN FROM LOW-INCOME POPULATION

Dror Fraser1,4, Natalya Bilenko1,3,4, Hillel Vardi1,4, Ilana Belmaker1,2
1Epidemiology, Ben–Gurion University of the Negev, Faculty of Health Sciences, Israel
2Department of Community Health, Faculty of Health Sciences, Israel
3Department of Public Health and Medical Office of Regional MOH, Ministry of Health (MOH), Israel
4Public Health, S. Daniel International Center for Nutrition, Faculty of Health Sciences, Israel

Objective. To assess efficacy of multiple micronutrient supplementation with Sprinkles on growth of folate and zinc in low SES children population suffering from high rates of anemia and stunting in southern Israel.

Methods. We performed a cluster-randomized community trial in 328 Bedouin and 293 Jewish Children from desert area of Israel, 6 months of age, providing Sprinkles (iron, vitamins A, C, folate and zinc) to Intervention group, and iron and vitamin A and C to Control group, daily for 6 months. We measured the effect on folate and zinc in venous blood at age one year and stunting at age 12 and 18 months.

Results. Folate level changed from 17.6±5.1 to 23.6±4.3 (p=0.049) and from 20.1 to 26.7 (p=0.039) ng/mL in intervention Bedouin and Jewish groups, respectively. Zinc level increased from 125±57.8 to 147±46.9 (p=0.036), and from 148.9±33.8 to 163.3±62.3 ug/dL (p=0.048) in Bedouin and Jewish intervention groups, respectively. No significant changes in both folate and zinc in control groups were detected. Sprinkles supplementation was associated with decreased risk for stunting (height-for-age z-score-2.5) among Bedouin children at age 18m (OR=0.4, 95% CI 0.29-.53, p=0.001) adjusted for baseline stunting status and days of supplementation.

Conclusion. Young children from low- and middle population need administration of Zinc containing supplements to optimize their genetic potential for physical growth.
HEMOGLOBIN LEVEL AND STUNTING OF SIX TO EIGHT MONTHS OLD INFANTS IN EAST JAKARTA, INDONESIA

Aldo Ferly, Saptawati Bardosono
Department of Nutrition, Faculty of Medicine, Universitas Indonesia, Indonesia

Introduction: Anemia in infant is a common nutritional problem in Indonesia. Stunting as a form of growth and development retardation that is associated with delayed cognitive development, decreased adult stature, decreased productivity and fewer years of schooling is important to be prevented in early age. Previous study found out that hemoglobin level has association with GH-IGF-I level which is important in growth process. This study aims to find out correlation between stunting and hemoglobin level among infants aged 6 to 8 months old.

Materials and Methods: A cross-sectional study was done on a total of 55 infants aged between six to eight months old at several clinics in Kampung Melayu, East jakarta-Indonesia. Anthropometric measurements of weight and height were done and analyzed using WHO-Anthro 2005 to detect stunting. Hemoglobin level was measured using hemoCue method. Statistical analysis was done using spearman correlation test.

Results: Correlation between height/age Z-score as an indicator of growth with hemoglobin level was observed in this study (r: 0.394, P<0.05). In addition, we also observed the correlation between weight/age Z-score with hemoglobin level (r: 0.332, P<0.05). No correlation was observed between weight/height Z-score with hemoglobin level. (r: 0.113, P>0.05).

Conclusion: The result of this study shows that hemoglobin level correlates with height/age Z-score which is a chronic growth indicator of infants. This is possible due to action of IGF-I which inhibits apoptosis of hematopoietic cells. Therefore, greater concern regarding nutrition, especially in infants is imperative. Steps such as hemoglobin level screening and breastfeeding must be done in order to prevent anemia which correlates with stunting.
PREVALENCE OF ECG ABNORMALITIES AMONG HEALTHY MALE ADOLESCENT ATHLETES IN TWO HIGH SCHOOLS IN METRO MANILA

Elissa Dyann Soriano¹, Eden Latosa¹,²
¹Department of Pediatrics, Jose R. Reyes Memorial Medical Center, Philippines
²Department of Pediatric Cardiology, Philippine Heart Center, Philippines

Background: Student athletes are routinely screened by physicians prior to engaging in sports. In the Philippines, obtaining an electrocardiogram (ECG) is currently not a routine part of the sports clearance but has shown to detect potentially life threatening cardiac diseases that are responsible for the occurrence of sudden cardiac death.

Objective: To determine the prevalence of ECG abnormalities in healthy male athletes aged 13-19 years in 2 high schools in Metro Manila.

Methods: This is a prospective cross-sectional study. A questionnaire was used to obtain information on the subjects' demographic data. The American Heart Association Guidelines for Preparticipation Cardiovascular Screening of Young Competitive Athletes was used for history and physical examination. ECG was obtained and findings were classified as having no findings, normal-variant and uncommon ECG findings.

Results: Out of the 61 high school athletes enrolled in the study, 3% had completely normal ECG and 25% have normal-variant ECG changes for athletes, most commonly sinus arrhythmia (47%) and sinus bradycardia (16%). The most frequently seen uncommon ECG finding is T-wave inversion in the right precordial leads (69%). Six athletes were identified to be needing referral to a specialist: 1 with biventricular hypertrophy and left atrial enlargement on ECG and a physical examination finding of a systolic murmur, 2 athletes with prolonged QT and 3 athletes with complete Right Bundle Branch Block (RBBB).

Conclusion: ECG abnormalities requiring referral to a specialist were detected in about 10% of the athletes who were generally asymptomatic. Adding electrocardiography to the preparticipation screening done in young athletes may increase the chances of detecting potentially fatal cardiac conditions and athletes with or without identifiable risk factors may benefit from it.
PERSISTENT NON-BILIOUS VOMITING IN THE NEWBORN – A NOTE OF CAUTION

Rohini Sahay, Govind Murthi
Paediatric surgery, Sheffield Children's Hospital, UK

Bilious vomiting in the newborn baby is well recognised as a potentially serious symptom and usually investigated promptly. Non-bilious vomiting, on the other hand, can be attributed to gastro-oesophageal reflux or considered a reflex phenomenon, is mild and transient, and is hence usually ignored with no ill effects. However, persistent non-bilious vomiting in a new born baby, from the very beginning, can, rarely, be due to obstruction proximal to the ampulla of Vater in the second part of the duodenum.

We present two babies who presented late in the first week of life with severe dehydration, weight loss and metabolic alkalosis secondary to persistent non-bilious vomiting caused by a pre-ampullary duodenal atresia and discuss their management.
HETEROTOPIC GASTRIC MUCOSA IN THE LOWER ESOPHAGUS ASSOCIATED WITH CHRONIC GASTRITIS WITH HELICOBACTER PYLORI IN A CHILD

Vasile Valeriu Lupu, Ancuta Ignat, Gabriela Paduraru, Marin Burlea
Pediatrics, University of Medicine and Pharmacy "Gr. T. Popa", Romania

Heterotopic gastric mucosa (HGM) is abnormally placed gastric mucosa outside of the stomach. HGM is most commonly found in the proximal esophagus. It may be connected with disorders of the upper gastrointestinal tract, and it can be exacerbated by Helicobacter pylori. The diagnosis of HGM is confirmed via endoscopy with biopsy. Histopathology provides the definitive diagnosis by demonstrating gastric mucosa adjacent to normal esophageal mucosa. HGM located in the distal esophagus needs differentiation from Barrett’s esophagus. Malignant progression of HGM occurs in a stepwise pattern, following the metaplasia-dysplasia-adenocarcinoma sequence. We present a rare case of a 15-year-old female with HGM located in the lower esophagus, associated with chronic gastritis with H. pylori. Endoscopy combined with biopsies is a mandatory method in clinical evaluation of metaplastic and non-metaplastic changes within HGM of the esophagus.

Keywords: heterotopic gastric mucosa, esophagus, child, H. pylori
DIAGNOSIS DIFFICULTIES IN A CASE OF AUTOIMMUNE DISEASES ASSOCIATION

Sur Genel\textsuperscript{1}, Sur Maria Lucia\textsuperscript{1}, Floca Emanuela\textsuperscript{1}, Burac Lucia\textsuperscript{2}
\textsuperscript{1}Pediatrics, University of Medicine and Pharmacy, Iuliu Hatieganu, Romania
\textsuperscript{2}Pediatrics, Emergency Clinical Hospital for Children, Romania

Introduction: Autoimmune diseases have an unpredictable development potential. Their early diagnosis and treatment can bring real benefits to the patient. Association of autoimmune diseases in the same patient, which happened frequently in recent years, may have a bad prognosis.

Purpose: assessing the possibility for development of three autoimmune diseases combination: autoimmune hepatitis, thyroiditis and celiac disease, with the possibility of developing diabetes.

Material and method: We tried to identify the etiology of hepatic cytolysis syndrome at a 6-year-old girl. The patient presented to the doctor for an external facial paralysis at which point the hepatic cytolysis syndrome was highlighted.

Results: Laboratory investigations ruled out viral hepatitis HBV, HAV, HCV, HDV, CMV, and EBV. Autoimmune hepatitis was initially ruled out by lack of inflammatory syndrome, Ac-ANA negative, and p-ANCA negative. Transglutaminase antibodies were negative. From 6 to 10 years the patient was investigated by medical services in Italy, but etiology has not been elucidated. At 10 years old the patient back in the pediatric service in Cluj-Napoca and new investigations were made. Transglutaminase antibodies are currently weak positive. Abdominal ultrasonography shows the presence of liver cirrhosis. Parents refuse liver and duodenal biopsy, investigations conducted afterward in Italy. Liver biopsy indicates the presence of autoimmune hepatitis in cirrhotic stage with fibrosis degree IV. Duodenal biopsy shows the presence of celiac disease stage 3C Marsh. Patient starts the gluten-free diet. Drug therapy includes cortisone and Imuran. Hepatic cytolysis syndrome evolution is favorable. At 12 years old the patient returns for investigation, at which point can be detected the presence of an autoimmune thyroiditis.

Conclusions: The negative serology makes early diagnosis difficult. The combination of three autoimmune diseases in the same patient can lead to a bad prognosis. Association between celiac disease and autoimmune hepatitis can lead to negative serology for both diseases, but evolution progresses.
RELATIONSHIP BETWEEN AUDIO VISUAL MEDIA EXPOSURE AND AGE AT MENARCHE AMONG JUNIOR HIGH SCHOOL IN MEDAN

Tity Wulandari, Melda Deliana, Sri Sofyani, Siska Mayasari Lubis
Department of Child Health, Faculty of Medicine University of Sumatera Utara, Indonesia

Background: The age at menarche in recent years tend to be early experienced by girls. The earlier age at menarche can cause negative health effects. Some studies suggest that there were relationship of audio-visual media for age at menarche but the results were inconsistent.

Objective: To determine the relationship between audio-visual media exposure and the age at menarche.

Methods: A cross sectional study was conducted among junior high school in Medan on August to October 2015, there were 216 children who had fulfilled the inclusion criteria. A history of exposure to audiovisual media known from the questionnaire that has been validated previously. Data was analyzed using fisher exact test to determine the relationship between audio-visual media exposure and age at menarche.

Results: We found 216 children had experienced menarche, the mean age at menarche was (11.6 SD 1.13) years old. There were 201 of them have been exposed to audio-visual media that contain sexual content, from the 201 children that there were 32 children who have early menarche. There was no statistically significant relationship between age at menarche with audio visual media exposure (P = 0.68).

Conclusions: In this study there was no relationship between media audio visual exposure and age at menarche.

Key words: Audio visual, age at menarche, children.
BLOOD IRON PROFILE IN CHILDREN WITH AND WITHOUT MYCOBACTERIUM TUBERCULOSIS INFECTION THAT HAVE CONTACT WITH ACTIVE ADULT TUBERCULOSIS

Novita Sitanggang, Ridwan Daulay, Rita Evalina, Wisman Dalimunthe, Rini Savitri Daulay, Fathia Meirina

Department of Child Health, Medical School, University of Sumatera Utara, Indonesia

Background. Iron is an essential micronutrient for the metabolic processes and have a role in tuberculosis (TB) infection. Immune response to an infection releases cytokines, causing changes in iron homeostasis.

Objective. To determine the differences of blood iron profile between children with and without M. tuberculosis infection that have contact active adult TB.

Method. A cross-sectional study was performed on June 2015 at three health centers in the district of Batubara, North Sumatera Province. A total of 50 children who had met criteria were taken as subjects; 26 children with M. tuberculosis infection and 24 children without M. tuberculosis infection. Mantoux test, complete blood count, and blood iron profile was performed in all subjects. Data were analyzed using independent t-test.

Results. There were significant differences in hemoglobin level, serum iron, and transferrin saturation between children with and without M. tuberculosis infection. Hemoglobin level was 11.6 (SD 1.5) g/dL and 12.56 (SD 1.1) g/dL, (P = 0.013). Serum iron was 54.7 (SD 26.9) µg/dL, and 72.58 (SD 22.0) µg/dL, (P = 0.013), transferrin saturation was 16.3 (SD 8.3) %, and 21.2 (SD 6.2) %, (P = 0.022), but there was no significant differences in terms of serum feritin and total iron binding capacity. Serum feritin was 53.6 (SD 34.4) ng/mL, and 49.4 (SD 23.9) ng/mL, (P = 0.615). Total iron binding capacity was 343.9 (SD 48.7), and 342.2 (SD 33.5) µg/dL, (P = 0.882).

Conclusion. There are significant differences in hemoglobin level, serum iron, transferrin saturation in children with and without M. tuberculosis infection.

Keywords: M. tuberculosis infection, iron profile, children
Background: Alanine Transaminase (ALT) and Aspartate Transaminase (AST) are liver enzymes. Current researches on drugs to lowered these liver enzymes are not many. Ursodeoxycholic acid (UDCA) is one of the drugs that can lowered liver enzyme levels.

Objective: To determine the role of ursodeoxycholic acid in decreasing value of ALT and AST in pediatric patients.

Methods: This study was an observational analytic study, conducted in Haji Adam Malik General Hospital, Medan, North Sumatera on August to October 2015. The subjects were 42 children admitted to the pediatric ward that had ALT and AST level more than two times the upper limit of normal value. Subjects were given UDCA 10 mg/kg/day divided bid for seven days. The level of ALT and AST were reassed on the seventh day. Data were analysed using paired t-test and Wilcoxon signed ranks test.

Results: Seventy one percents subjects in the study were male, and the rest were female (28,5%). Mean level of ALT and AST before administration of UDCA were 196.1 IU/L and 187.7 IU/L. Mean level of ALT and AST after administration of UDCA were 106.6 IU/L and 116.7 IU/L. There were significant decreasing of ALT and AST level before and after of UDCA admission (P = 0.001), where the mean of decreasing ALT level was 89.5 IU/L and AST level was 71.0 IU/L.

Conclusion: There were significant decreasing of ALT and AST level between before and after admission of ursodeoxycholic acid (UDCA).

Keywords: ursodeoxycholic acid, alanin transaminase, aspartate transaminase
Background: Eating behavior in child influenced by several factors, one of them is parents concern about children’s nutritional status. Parents often use visual perception to assess the nutritional status of children.

Objective: To determine the relationship between visual perceptions, nutritional status and eating behavior in children.

Methods: A cross sectional study was conducted on August 2015 at 3 kindergartens in Medan. The subjects were 102 student and their mothers. Eating behavior was assessed by Parental Feeding Style Questionnaire (PFSQ) for measured emotional, instrumental, control, and eating encouragement. Body image was assessed by child sketch created by a graphic artist (Scott Millard). All subjects body weight and height were also measured, children’s nutritional status based on WHO growth charts 2000. Data were analyzed by using Cohen’s Kappa, Kruskal Wallis and Anova

Results A total of 102 subjects were eligible with this study. We found that no relationship between the measurement of mothers visual perception with childrens nutritional status (\( \kappa = -0.174 \)). No differences in maternal eating behavior for children with visual perception and nutritional status of children (P value 0.05).

Conclusion: There are no relationship between the measurement of maternal visual perception scores with nutritional status, maternal behavior toward diet and children’s nutritional.

Key words: Mother visual perception, nutritional status, children eating behavior.
Background: Recurrent chronic cough in adolescent may be asthma, however spirometry test to obtain the lung function parameters in adolescent with recurrent chronic cough is limited.

Objective: To determine the lung function parameters and the FEV1 variability of adolescent with recurrent chronic cough before and after salbutamol inhalation.

Methods: This was the cross sectional study to adolescent in four schools of Batubara regency of North Sumatera province. Variability of FEV1 and Forced Vital Capacity (FVC) before and after salbutamol inhalation were analyzed using Wilcoxon signed-rank test.

Results: Of 753 students, 98 adolescent fitted the inclusion criteria and 87 of 98 passed for ATS/ERS criteria of spirometry test. The FEV1 mean before and after salbutamol were 2.29 (SD 0.56) and 2.28 (SD 0.53), respectively (P=0.001). FVC value before and after salbutamol were also statistically significant with the value 2.37 (SD 0.60) and 2.44 (SD 0.60), respectively. There were no changes of FEV/FVC ratio (P=0.796). Variability bigger than 12 percent of FEV1 post salbutamol inhalation were found in 5.7 percent respondents.

Conclusions: Spirometry test and the use of salbutamol inhalation were useful to assist clinicians determine the variability of FEV1 and FEV/FVC in adolescent with recurrent chronic cough.

Keywords: spirometry, chronic recurrent cough, adolescent, lung function, FEV1.
CORRELATION BETWEEN OBESITY AND FUNCTIONAL CONSTIPATION IN CHILDREN

Natasha Yuwanita, Atan Baas Sinuhaji, Tiangsa Sembiring, Supriatmo Supriatmo, Ade Rachmat Yudiyanto

Department of Child Health, Medical School, University of Sumatera Utara, Indonesia

Background: Functional constipation is the common problem in children which can be found either in developed and developing country. In the past two decade, the prevalence of obesity is also increasing in the developing country. Obesity itself has caused lot of health problem including functional constipation. Study to learn about correlation between obesity and functional constipation can only be found from the developed country.

Objectives: To determine correlation between obesity and functional constipation in children.

Methods: A cross sectional study had been conducted in Al-Mukhlisin Islamic Boarding school, Batu Bara region, North Sumatera province between July and August 2015. The subjects were 155 children attending boarding school, age range between 12 to 17 years old. Questionnaire to determine functional constipation was given with direct interview. Obesity was assessed based on body mass index. Data were analyzed using chi square test.

Result: Of 155 children, 49 children had functional constipation and 18 of them were obese. The mean age for children with constipation was 14.7 years old (SD: 1.07 [95% CI: 14.1 to 14.7]) with mean body weight 53.8 kg (SD: 15.1[95% CI: 49.4 to 58.1]). The prevalence for functional constipation in obese children was 36.7% There was statistically significant correlation between obesity and functional constipation (P = 0.001) with prevalence ratio = 4 (95% CI: 1.72 to 8.94) ; meaning obese children had 4 times higher risk to have functional constipation

Conclusion: There is significant correlation between obesity and functional constipation in children

Keywords: obesity, functional constipation, prevalence, children, developing country.
HIGHER LEVELS OF SERUM TOTAL HOMOCYSTEINE AND NEURAL TUBE DEFECTS: EFFECT MODIFICATION BY THYROID HORMONE LEVELS IN PREGNANT WOMEN

Yan-Hong GU¹, Masaaki Matsuura¹, Masaru Ushijima², Ting Zhang³
¹Graduate School of Public Health, Teikyo University, Japan
²Genome Center, The Cancer Institute of Japanese Foundation for Cancer Research, Japan
³Beijing Municipal Key Laboratory of Child Development and Nutrimics, Capital Institute of Pediatrics, China

Background: Folate deficiency during the periconceptional period is one of the causes of neural tube defects (NTDs) and accompanied a higher level of serum total homocysteine (tHCY) in pregnant women. Thyroid hormone also influences the development of the brain in the fetuses at an early stage.

Objective: We aimed to explore the association between tHCY and NTDs when pregnant women are exposed to low or high serum levels of thyroid hormone.

Methods: We conducted a case-control study to investigate and compared 1) serum FT4 level at early pregnancy, and 2) risk (odds ratios, OR) of tHCY in pregnant women exposed to low or high levels of FT4 adjusted for maternal age, gestational weeks, and urine iodine.

Results: There was a FT4 surge in the control group, whereas it was not seen in pregnant women with NTDs. There was no correlation between concentrations of urine iodine and serum FT4 adjusted for gestational weeks. Serum tHCY was associated with NTDs risk with an OR of 3.7 (95% confidence interval = 1.6-8.3) and 1.5 (0.2-8.7) for low and high levels of serum FT4 exposure, respectively. There was no association between urine iodine and NTDs (P 0.05).

Conclusion: Serum FT4 level modifies the effect of tHCY on NTDs risk rather than urine iodine. During the periconceptional period, attention should be paid to the levels of not only serum tHCY (or folate) but also serum FT4.
ASSOCIATION BETWEEN CONGESTIVE HEART FAILURE AND ACUTE KIDNEY INJURY IN CHILDREN

Hasmidar Indryani, Tina Christina Lumbantobing, Lily Irsa, Muhammad Ali, Rizky Adriansyah, Hafaz Zaky Abdillah

Department of Child Health, Medical School, University of Sumatera Utara, Indonesia

Background: Patient with congestive heart failure (CHF) is susceptible to have acute kidney injury (AKI) because both of kidney and heart have almost the same role in circulation and fluid regulation. Several studies revealed association between CHF and AKI in adult but still few in children.

Objective: To determine the association between CHF and AKI in children.

Method: A cross sectional study had been conducted on April to August 2015 in pediatric ward Haji Adam Malik Hospital Medan. Sample group was 30 children with CHF and control group was 30 children without CHF. Analysis of urine output, hemoglobin level, serum urea, serum creatinine, and estimated creatinine clearance on admission were performed in both group. Echocardiography examination by pediatric cardiologist to analyze ejection fraction and fractional shortening was done only in CHF group.

Results: Of 30 children with CHF, only 6 children who suffered from AKI, while no AKI in control group. There was a statistically significant association between CHF and AKI ($P=0.024$) with prevalence ratio = 1.25 (95% CI: 1.04 to 1.49) ; meaning CHF children had 1.25 times higher risk to have AKI. Risk factors for AKI in CHF were ejection fraction ($P=0.01$) and fractional shortening ($P=0.01$)

Conclusion: There was an association between CHF and AKI in children.

Keywords: congestive heart failure, acute kidney injury, children
ASSOCIATION BETWEEN CONGESTIVE HEART FAILURE AND ACUTE KIDNEY INJURY IN CHILDREN

Hasmidar Indryan, Tina Christina Lumbantobing, Lily Irsa, Muhammad Ali, Rizky Adriansyah, Hafaz Zaky Abdillah
Department of Child Health, Medical School, University of Sumatera Utara, Indonesia

Background: Patient with congestive heart failure (CHF) is susceptible to have acute kidney injury (AKI) because both of kidney and heart have almost the same role in circulation and fluid regulation. Several studies revealed association between CHF and AKI in adult but still few in children.

Objective: To determine the association between CHF and AKI in children.

Methods: A cross sectional study had been conducted on April to August 2015 in pediatric ward Haji Adam Malik Hospital Medan. Sample group was 30 children with CHF and control group was 30 children without CHF. Analysis of urine output, hemoglobin level, serum urea, serum creatinine, and estimated creatinine clearance on admission were performed in both group. Echocardiography examination by pediatric cardiologist to analyze ejection fraction and fractional shortening was done only in CHF group.

Results: Of 30 children with CHF, only 6 children who suffered from AKI, while no AKI in control group. There was a statistically significant association between CHF and AKI ($P=0.024$) with prevalence ratio = 1.25 (95% CI: 1.04 to 1.49) ; meaning CHF children had 1.25 times higher risk to have AKI. Risk factors for AKI in CHF were ejection fraction ($P=0.01$) and fractional shortening ($P=0.01$)

Conclusion: There was an association between CHF and AKI in children.

Keywords: congestive heart failure, acute kidney injury, children
THE LONG TIME OF USE OF IRON CHELATION AGENT WITH BIOCHEMICAL BONE PROFILE IN THALASSEMIA PATIENTS

Angreiny Lubis, Nelly Rosdiana, Tina Tobing, Bidasari Lubis, Sugiani A, Selvi Nafianti, Olga Siregar

Department of Child Health, Medical School University of Sumatera Utara, Indonesia

Background: Thalassemia is a genetic hematologic disorder that needs a lifetime transfusion. It will cause heart disease, endocrinopathies including abnormalities of bone profile. Several studies revealed an association between duration of iron chelation agent and biochemical bone profiles (calcium, phosphor, alkaline phosphatase, and albumin).

Objective: To determine the effect of long time use of iron chelation agent to biochemical bone profile in thalassemia patients.

Methods: A cross sectional study was conducted in Haji Adam Malik hospital and Sari Mutiara hospital Medan, on July until September 2015. Biochemical bone profile measurement were performed to all subjects. Data was analyzed using Spearman correlation test.

Results: From 33 thalassemia children were enrolled this study. Mean age of the subject was 10 years old (SD: 3.90), and the mean time of using iron chelation was 6 month (SD: 3.42). Bone profile measurement showed that mean level of calcium was 9 mg/Dl (SD: 0.86), phosphor was 4.6 mg/Dl (SD: 0.66), alkaline phosphatase was 293.2 IU/L (SD:157.40), and serum albumin was 3.8 g/Dl (SD:0.50). Spearman correlation test showed no significant correlation between duration of iron chelation agent and biochemical bone profiles. Correlation for each association between duration of iron chelation agent used and bone profile were as follows calcium (r=0.198), phosphor (r = -0.292), alkaline phosphatase (r = 0.327), and albumin (r = 0.268) there was weak correlation (P: 0.05).

Conclusion: Long time used of iron chelation agent has weak correlation with biochemical bone profile in thalassemia patients.
CORRELATION BETWEEN BORN WEIGHT AND PREVALENCE OF OBESITY AND OVERWEIGHT IN SCHOOLCHILDREN

Ikram Louati¹, Feriel Limam¹, Claude Ben Slama², Hassen Atrous¹, Abbes Hammami¹, Chaffika Atrous¹, Jihen Tlijani¹, Slah Jlaiel¹

¹Department of Pediatrics, Grombalia Hospital, Tunisia
²Endocrinology and Metabolic diseases, National Nutritional Institute, Tunisia

A retrospective study including 1433 schoolchild from 5 to 8 years old, using the birth weight (BW), the current weight, size, and their body mass index (BMI), and then interpreted the data according to the new tables of the WHO.

A correlation between the birth weight and the current anthropometric measures was studied by a statistical analysis.

Results: 6.2 % of children have a lower BW 2kg500, 85.2 % of the children have a normal BW between 2kg500 and 4kg, 8.5 % of the children were born with a higher BW4kg.

Overweight and obesity Prevalences of the born with high BW children (31.7 %; 11.4 %) and those born with a low BW (29.2 %; 14.6 %) are significantly higher than at the children born with normal BW (19.33 %; 5.56 %). Hypotrophie prevalence is significantly higher in the group of children having a low BW 3.4 %; 0 % for those born with high BW.
PREVALENCE AND PATTERN OF PSYCHOSOCIAL DISORDERS AMONG OVERWEIGHT AND OBESE CHILDREN IN ENUGU, NIGERIA

Nwachinemere Uleanya¹, Elias Aniwada², Stanley Nwoha³

¹Pediatrics, Enugu State University Teaching Hospital, Enugu, Nigeria
²Community Medicine, University of Nigeria, Enugu Campus, Nigeria
³Psychological Medicine, University of Nigeria Teaching Hospital, Ituku-Ozalla, Nigeria

Background: Childhood Obesity has been recognized as a major 21st century public health challenge because of alarming trends in the prevalence, severity, and occurrence of adverse health and psychosocial consequences over the course of life. The prevalence of obesity and overweight has been increasing over the last 2 decades in developing world, paradoxically coexisting with under-nutrition. Overweight and obesity in childhood have significant impact on both physical and psychosocial health.

Objectives: The objectives of this study were then to determine the prevalence and the pattern of psychosocial disorders among secondary school children in Enugu metropolis aged 10-18 years.

Methods: It was a descriptive cross sectional study. Two hundred subjects were selected through multistage sampling. Data for psychometric measurements were collected using self-administered questionnaires after their weight and height were measured and their BMI determined.

Results: One hundred and nineteen of the 200 students had one or more psychosocial disorder, giving a psychosocial prevalence rate of 59.5%. The psychosocial disorders were commoner among female than males though this was not statistically significant (χ² = 0.905, p = 0.34). Eighty percent of the children in the middle class had at least one psychosocial disorder, making the middle class the most prevalent group with psychosocial disorders among obese children. Of the 200 students, 92 (46%) had depression, 28 (14%) had anxiety disorder, 46 (23%) had low self-esteem, 56 (28%) and 54 (27%) felt discriminated against and stigmatized respectively.

Conclusion: The burden of psychosocial disorders among overweight and obese children in Enugu metropolis is very high. While depression is commonest, anxiety disorder is the least prevalent. These disorders are commoner among the girls.
IRON DEFICIENCY ANAEMIA IN A HIGH RISK POPULATION: PREVENTIVE INTERVENTION

Lufti Jaber

Neurology and Child Development Clinic, Schneider Childrens Medical Center of Israel, Petah Tikva, Clalit Health Services, Sharon-Shomron District, Israel

Background: Iron deficiency (ID) and iron-deficiency anemia (IDA) are common medical conditions seen in everyday clinical practice. ID continues to be the top-ranking cause of anemia worldwide, and IDA has substantial effect on the lives of young children in both low-income and developed countries. The prevention diagnosis and treatment of this condition could clearly be improved.

Objective: To determine the effect of nutritional education and supplemental iron administration on the prevalence of IDA in Arab infants.

Methods: Three hundred and ten infants were randomized alternately into two groups. Mothers (n=143) in the control group received standard information on prevention of IDA and mothers in the intervention group (n=144) received extensive information on the importance of an iron-rich diet. Data was scored regarding diet contents. Mothers in the intervention group were encouraged to give their children an iron polymaltose complex (IPC) preparation starting from age 4 months to 1 year. Compliance of receiving the medication was evaluated. The groups were compared for outcome by chi-square test. Main outcome measures were haemoglobin (Hb), mean corpuscular volume (MCV), and serum ferritin levels.

Results: Anaemia (Hb11 g/dL) was recorded in 28% and 34% of the intervention and control groups, respectively (p=NS). There was no effect of infant or parental background factors on rate of anaemia. Frequency of anaemia was lower in infants who received ≥6 months of iron medication according to mothers’ reports, and in infants breastfed for ≥6 months (p=0.002).

Conclusions: Questions were raised regarding the strategies of preventing IDA in infancy.
ORAL CARNITINE SUPPLEMENTATION IN PEDIATRIC DIPHTHERIA INFECTION: A SYSTEMATIC REVIEW

Jazel Manarang, Maria Cristina Lozada

Pediatrics, University of the Philippines - Philippine General Hospital, Philippines

Background: Diphtheria is an acute infectious disease that poses a considerable threat to children. Myocarditis from diphtheria infection is due to direct effect of the exotoxin of the bacillus. Carnitine administration has been studied to diminish cardiac cell loss caused by diphtheria toxin.

Objectives: This systematic review aims to assess the efficacy of oral carnitine supplementation versus routine therapy alone in reducing myocardial damage, cardiac-related mortality and overall mortality among pediatric patients with diphtheria.

Methods: Two randomized controlled clinical trials evaluating the efficacy of oral carnitine supplementation in reducing the incidence of myocarditis among children less than 19 years diagnosed with diphtheria infection were analyzed. Two independent reviewers analyzed the eligibility and risk of bias of each available full text copy of studies. The Review Manager Software was utilized in the comparative analyses.

Results: Pooled risk ratio values showed 0.85 (95%CI [0.73, 0.98], I² 24%), RR 21% [0.1, 0.46], I² 0% and RR 0.39 [0.22-0.69], I² 0%, with trend favoring the experimental group in reducing myocarditis, cardiac-related deaths and overall mortality, respectively.

Conclusion: This systematic review showed a significant decrease in the incidence of myocarditis, cardiac-related deaths and overall mortality rate in patients with diphtheria who received carnitine compared to controls. However, the evidence was high risk for bias. The review provides encouraging data but more high quality and better designed studies are warranted to support this therapeutic claim.
Background: Cardiomyopathy is a rare manifestation of thyrotoxicosis. The association of thyrotoxicosis and disturbances in the heart function is well established. Heart failure can be resulted from chronic tachycardia and the action of thyroid hormone on altering gene expression in cardiac cells. Most of them are known to be reversible after thyroid dysfunction normalization. However, there is irreversible cardiomyopathy even after successful treatment of thyrotoxicosis.

Objective: We report a patient of irreversible dilated cardiomyopathy due to thyrotoxicosis who was successfully treated with heart transplantation. Also, possible mechanisms underlying the development of systolic dysfunction in thyrotoxicosis are discussed.

Methods: A 10-year-old girl presented with chest discomfort, dizziness, sweating, and exertional dyspnea. She was initially diagnosed with Grave’s disease at age of 3, and has been treated with anti-thyroid agents at another hospital. Despite the medication, she manifested poor oral intake and fatigue. Her echocardiography showed grade II mitral regurgitation at age of 8, and she started taking diuretics. However, symptomatic heart failure aggravated and she was transferred to our hospital.

Results: She was subsequently diagnosed as dilated cardiomyopathy secondary to Graves’ disease with severe cardiomegaly and left ventricular systolic ejection fraction of 20% on echocardiography. She underwent heart transplantation which led to improvement of her clinical status and normalization of her ejection fraction.

Conclusion: Cardiomyopathy should be considered even in young patients with thyrotoxicosis for establishing the diagnosis and instituting proper management. In many cases, heart failure associated with hyperthyroidism is known to take reversible course. However, a poor prognosis has been reported once patients developed dilated cardiomyopathy with impaired left ventricular function. Heart transplantation could be considered as a salvage therapy in intractable heart failure.
Bleeding from the rectum is a common symptom seen in children. They cover a wide range of common and mundane diagnoses like constipation causing fissures, infectious colitis, inflammatory bowel disease and cow’s milk protein allergy which can be diagnosed and managed easily. Occasionally a polyp or a Meckel’s diverticulum is diagnosed. We present three cases of children who have undergone various investigations and been found to have vascular malformations of the rectum and sigmoid. They have been managed conservatively and have periods of no or insignificant bleeding. The question we aim to raise is if there is a more definitive treatment available for these children.
Self-injurious behavior in children and adolescents is not typically a standalone disorder. Research shows that these behaviors are often comorbid with depression and anxiety as well as borderline personality disorder and eating issues (Whitlock, 2010; Whitlock, Eckenrode & Silverman, 2006; Haw, Hawton, Huston & Townsend, 2001).

This poster will present the results from a secondary data analysis of child and adolescent cases from a community mental health agency in the United States. Approximately 3000 charts were reviewed. This represented a 100% sample of closed cases from one multi-site agency over a 10 year period. This current analysis looks at the relationship between self-injurious behavior and: DSM diagnoses; demographics; school failure; and having a primary care physician.

After cleaning the data, a total of 2760 cases were included in the final sample. Of these cases, 659 indicated self-injurious behavior. This number represents 24% of the entire sample. In addition, 38% of these cases were male; 23% had been held back in school; 83% had a primary care physician.

A linear regression was performed to examine the relationship between the predictor variables and the presence of self-injurious behavior. The DSM diagnosis most related (with statistical significance p<0.05) to the presence of self-injurious behavior was Adjustment Disorder. This was followed by children and adolescents whose primary diagnoses were Physical or Sexual Abuse. Results also indicate that screening for self-injurious behavior should not be limited to children and adolescents who present with depression and anxiety symptoms as self-injurious behavior occurs across diagnoses, and occurred frequently in this sample with “mild” DSM diagnoses. Common convention that self-injury is limited to females was not upheld in this sample. A discussion of clinical strategies will be presented along with measures that can be utilized for evaluating the presence of self-injurious behavior in a community mental health agency or primary care facility.
THE PREVALENCE AND RISK FACTORS OF REPIRATORY ALLERGY AMONG ADOLESCENT STUDENTS IN GROMBALIA

Limam Feriel, louati ikram, hammami abbes, atrous chafika, atrous hsen, thlijeni jihen
pediatrics, grombalia hospital, Tunisia

The prevalence of allergic diseases is increasing throughout the world.

The aim of our study was to determine the prevalence of asthma, rhinitis and allergic conjunctivitis and their epidemiological characteristics and risk factors among school students aged between 16 and 19 years in Grombalia, north east of Tunisia. 717 students were screened and we identified for each individual and family anamnesis data of atopy, a cardiopulmonary examination and measurement of peak expiratory flow, weight, height and BMI. In cases where the allergy was suspected, prick tests were carried out. Spirometry has been made whenever an asthma was suspected.

The prevalence of the allergy was 7.25%: 6.64% of pupils had allergic rhinitis, 4.5% rhinoconjunctivitis and 1.55% had asthma. The only statistically significant risk factor was family atopy (p 0.0001). Moreover, neither the sex, BMI or the concept of exposure to tobacco had influenced the prevalence of allergy. Mites were found to be the allergen sources in 77.19% of cases.

Conclusion: The prevalence of asthma and allergic rhinoconjunctivitis is significantly lower than that found in the literature, family atopy remains the main risk factor and mites the main causative agent.
This is a comparative study of underweight, overweight and obesity prevalence in schoolchildren for three groups of infants, aged 5 to 8 years, living in the same region (Grombalia in the north of Tunisia).

The research was carried out on children in 2015, 7 years ago and 20 years ago.

G1=1220 current schoolchildren, G2=2589 schoolchildren during the year 2008/2009, and 910 infants of 20 years ago (parameters used from school medical reports of students who are currently aged 25 to 28 years old.

For the three groups we evaluated the weight, height and body mass index (BMI).

The new charts of the WHO 2007 (BMI/age/sex) are used for the interpretation of results.

Statistical analysis: Epi info2 test chi2.

Results: the underweight, overweight and obesity prevalence among the three groups was found to be respectively: G1 (1.5%, 28.5%, 14.5%), G2 (3.01%, 21.13%, 6.83%), G3 (7.69%, 9.56%, 2.17%)

Conclusion: significant decreases of underweight and significant increases of overweight and obesity prevalence were found in the children analysed today compared with 20 years ago and lesser extent 7 years ago.
CHILDREN WITH FIRST EPISODE OF SEIZURE AND FEVER: IS LUMBAR PUNCTURE NECESSARY?

Faten Tinsa, Imen Bel Hadj, Samia Hamouda, Manel Ben Romdhane, Fatma Khalsi, Ines Trabelsi, Ines Brini, Khadija Boussetta

Pediatrics, Children’s Hospital Bechir Hamza, Tunisia

Background: Febrile seizure is a frequent cause of hospitalization. Its management remains problematic. Lumbar puncture, which is not devoid of risk, is strongly recommended in infants under 1 year presenting febrile seizure.

Objective: to define the utility of lumbar puncture in the management of febrile seizures in infants under 12 months and to identify predictor factors of meningitis

Patients and methods

This retrospective study was conducted in the department of pediatrics B in the Children Hospital of Tunis during eight-year period.

Results: 106 cases were collected during the period of study. Seizures related to bacterial meningitis were seen in 11 cases (10%). We have separated two groups: G1 infants presented bacterial meningitis, and G2 infants with febrile seizure. The comparison between the two groups G1 and G2 showed the following risk factors of meningitis: age ≤7 months (p=0,035), partial seizure(p=0,028), duration of seizure ≤5 min(p=0,001), recurrence of seizure in the same day(p=0,006), neurological abnormalities p=0,001), CRP 20 mg / l(p=0,03), hyponatremia ≤125 mmol/l(p=0,01).

The risk of meningitis is very low: 3,1 10^-3, if this condition is met: infants older than 7 months, having a unique and short seizure ≤5 min, and with a CRP ≤ 20 mg / l.

Conclusion: We recommend the practice of a lumbar puncture in infant less than 1 year of age, if one of the predictor factors found in the study is present. However, if the infant is older than 7 months, presenting a unique, and short (≤ 5 min) seizure, having a normal neurological examination and a CRP ≤ 20 mg / l, lumbar puncture should be discussed a case by case with a senior but an hospitalization for 24 hours is required for monitoring.
NEBULIZED 5% HYPERTONIC SALINE IN BRONCHIOLITIS: A RANDOMIZED CONTROLLED TRIAL

Faten Tinsa, Fatma Khalsi, Samia Hamouda, Imen Bel Hadj, Manel Ben Romdhane, Ines Trabelsi, Ines Brini, Khadija Boussetta
Pediatrics, Children’s Hospital Bechir Hamza, Tunisia

Background: Bronchiolitis is a public health problem in the world and in Tunisia. Nebulized hypertonic saline seems to have some benefits in bronchiolitis.

Objective: To evaluate the efficacy of nebulized 5% hypertonic saline with nebulized normal saline in bronchiolitis as measured by improvement in clinical score, oxygen saturation or reduction in duration of hospitalization.

Methods: This prospective, double blind, placebo controlled, randomized clinical trial was performed at Children’s Hospital of Tunis.

A total of 57 patients less than 12 months of age with diagnosis of moderately severe bronchiolitis were enrolled and assigned to receive 5% nebulized hypertonic saline or normal saline (placebo) at admission and every 4 hours during hospitalization.

Results: There were no significant difference between nebulized 5% hypertonic saline or normal saline at baseline and after 30, 60 and 120 minutes in Wang severity score, oxygen saturation in room air, rate respiratory and heart rate. There was no difference in duration of hospitalization.

Conclusion: Nebulized 5% hypertonic saline are safety but does not appear effective in treating moderately ill infants with the first acute bronchiolitis.
EFFECTIVENESS OF SYNBiotic IN THE TREATMENT OF ATOPIC DERMATITIS IN CHILDREN

Irike Ayumi, Rita Evalina, Johannes H Saing, Lily Irsa, Mahrani Lubis
Department of Pediatric, Faculty of Medicine, North Sumatera University, Indonesia

Background: Atopic dermatitis (AD) is a chronic itchy inflammatory disease of the skin. The role of synbiotic in treatment of the atopic dermatitis has shown varying results.

Objective: To determine the effectiveness of synbiotic in AD treatment.

Methods: A randomized controlled trial was conducted from July until August 2015 at primary health centres in Medan. Fifty two children with AD was included in the study. Subjects were divided into two groups, 26 children in each group. Group A received synbiotic and emolient, Group B received placebo (maltodextrin) and emolient. Both groups were followed for 14 days and SCORAD (Scoring of Atopic Dermatitis) index was assessed to determine AD severity in day 0, 7, 10, and 14. Data was analysed using mann whitney test.

Results: Mean SCORAD index reduction from day 0 until 14 of group A was better than group B, implying that synbiotic has a role in AD treatment. But unfortunately this result was not statistically significant (P 0.05). The EER and CER in this study was 75.84% and 73.08% respectively, NNT score of synbiotic treatment was 8.67.

Conclusions: Synbiotic was associated with better SCORAD index reduction in 14 days than placebo, but this was not statistically significant. Synbiotic is not effective in treatment of AD in children.
PREVALENCE OF PATHOGENIC *ESCHERICHIA COLI* IN STOOLS FROM HEALTHY CHILDREN AND ASSOCIATION WITH PREVIOUS ANTIBACTERIAL THERAPY

Ilva Daugule, Daiga Karklina, Silvija Remberga, Dmitrijs Perminovs, Iveta Supe, Ingrida Rumba-Rozenfelde

*Faculty of Medicine, University of Latvia, Latvia*

Background: Although *Escherichia coli* (*E.coli*) is a part of normal gastrointestinal microflora, pathogenic variants could cause diarrheal and extraintestinal diseases. However, data about asymptomatic carriage of pathogenic *E.coli* in children appear.

The aim of the study was to identify the presence of different pathogenic *E.coli* in stool samples of asymptomatic children and analyze a possible association between previous treatment with antibiotics and presence of pathogenic *E.coli*.

Methods: Faecal samples were gathered from 53 children without gastrointestinal symptoms (median of age - 5.5 years, boys 45%). Parents of children filled out a questionnaire about treatment with antibiotics received during previous month or previous year.

DNA was extracted from stool samples and analysed for the presence of pathogenic *E.coli* - enterotoxigenic (ETEC), enteroaggregative (EAEC), enteropathogenic (EPEC) and enterohemorrhagic (EHEC) - by PCR.

Results: Among children without gastrointestinal symptoms 15% (8/53) of isolates were positive for pathogenic *E.coli*: 13% (7/53) were positive for EPEC; one sample was positive for ETEC, one – for EHEC, one – for EAEC. One child carried simultaneously three types of pathogenic *E.coli* - EPEC, EHEC, ETEC; another child carried two types of pathogenic *E.coli* – EPEC and EAEC. Children carrying pathogenic *E.coli* had not received antibacterial therapy more often compared to children without pathogenic *E.coli*.

Conclusions: Data from the studied patient sample indicate that healthy children in the represented population may carry potentially pathogenic *E.coli* (predominantly EPEC). Clinical significance and factors promoting colonization with pathogenic *E.coli* should be studied further.

The study was supported by the grant from Latvia State Research programme „Biomedicine“
THE EFFECTIVENESS OF ADDITIONAL PROBIOTICS THERAPY TOWARDS SCORAD INDEX IN CHILDREN WITH ATOPIC DERMATITIS

Jessica Ekaputri, Rita Evalina, Melda Deliana, Lily Irsa, Mahrani Lubis
Department of Pediatric, University of Sumatra Utara, Indonesia

Background. Probiotics treatment was claimed to offer several functional properties including stimulation of immune system by producing gut floras and has an important role in atopic dermatitis (AD).

Objective. To determine the effectiveness of probiotics treatment in atopic dermatitis

Methods. A randomized controlled trial was conducted on 56 children suffering from AD from December 2015 to January 2016. The severity of AD was assessed based on the scoring of atopic dermatitis (SCORAD) index. Subjects were divided into two groups of SCORAD consisting of 28 children in each group. The case group received both probiotic and emollient treatment, meanwhile, the control group received only emollients treatment. SCORAD index was re-evaluated after 2 weeks of therapy. The data was analyzed using Mann Whitney test.

Results. There was no significant difference between SCORAD index in the case and the control group before intervention (p =0.629). Mean SCORAD index reduction in the case group was 12.99 which was better than the control group (8.05). However, there was significant differences between mean SCORAD index the case and control group after intervention (p =0.011). The EER and CER in this study was 63% and 37% respectively, NNT score of probiotic treatment was 3.8

Conclusion. Probiotics was effective in reducing AD severity.

Keywords: Atopic dermatitis, scorad index, probiotics.
BULLOUS PEMPHIGOID IN OBESE BOY: CASE REPORT

Rita Evalina, Lily Irsa
Pediatric, Mhrani Lubis, Indonesia

Bullous pemphigoid is an acute or chronic autoimmune skin disease that may very rarely in childhood, involving the formation of blisters, more appropriately known as bullae, at the space between the skin layers epidermis and dermis. We report a 16 years old boy with obese, who was diagnosed bullous pemphigoid on the basis of clinical findings and confirmed by skin biopsy showing sub epidermal blisters with dermal layer infiltrated with neutrophils. After treatment using pulse high dose corticosteroid follow by oral corticosteroid, topical corticosteroid and antibiotic for secondary infection, the symptoms getting better.

Key words: bullous pemphigoid, obese boy, corticosteroid
THE EFFECT OF KANGOROO MOTHER CARE (KMC) ON THE GROWTH OF LOW BIRTH WEIGHT (LBW) INFANTS

Tapi Endang Lubis, Emil Azlin, Selvi Nafianti, Guslihan Dasa Tjipta, Bugis Mardina Lubis
Departments of Pediatrics, Medical Faculty, University of Sumatera Utara, Indonesia

BACKGROUND: Kangaroo Mother Care (KMC) is one medically proven method to promote health and growth on low birth weight (LBW) infant.

OBJECTIVES: The aim of this research is to evaluate about KMC effectiveness on post natal growth of LBW infants.

METHODS: A prospective cohort research was conducted at Haji Adam Malik and Pirngadi Hospital, Medan from August until November 2015. Subjects were divided into 2 groups. The first group received KMC while the other group receives conventional care. Weight gain was evaluated daily, length and head circumference gain were evaluated weekly. The data was statistically analyzed by using t paired test, independent t test, Chi Square test, Fisher test and Mann Whitney test with 95% of reliability and P value of 0.05 was considered statistically significant.

RESULTS: We enrolled 40 LBW infants in the study. Mean weight and length gain were significantly higher in the KMC group (305.5 gram ± SD 147.45), (1.26 cm ± SD 0.31) that conventional group (96 gram ± SD 68.7), (0.86 cm ± SD 0.19) with p<0.001. Length of stay was significantly shorter in KMC group (23.25 days) than conventional group (28.40 days) with (p=0.002).

CONCLUSION: Kangaroo mother care (KMC) resulted in better weight and length gain in LBW infants.

Keywords: Kangaroo mother care, neonatal weight gain, length, LBW (Low birth weight)
EFFECTIVENESS OF SYNBIOTIC IN THE TREATMENT OF ATOPIC DERMATITIS IN CHILDREN

Irike Ayumi, Rita Evalina, Johannes H Saing, Lily Irsa, Mahrani Lubis
Department of Pediatric, Faculty of Medicine, North Sumatera University, Indonesia

Background. Atopic dermatitis (AD) is a chronic itchy inflammatory disease of the skin. The role of synbiotic in treatment of the atopic dermatitis has shown varying results.

Objective. To determine the effectiveness of synbiotic in AD treatment.

Methods. A randomized controlled trial was conducted from July until August 2015 at primary health centres in Medan. Fifty two children with AD was included in the study. Subjects were divided into two groups, 26 children in each group. Group A received synbiotic and emolient, Group B received placebo (maltodextrin) and emolient. Both groups were followed for 14 days and SCORAD (Scoring of Atopic Dermatitis) index was assessed to determine AD severity in day 0, 7, 10, and 14. Data was analysed using mann whitney test.

Results. Mean SCORAD index reduction from day 0 until 14 of group A was better than group B, implying that synbiotic has a role in AD treatment. But unfortunately this result was not statistically significant (P  0.05). The EER and CER in this study was 75.84% and 73.08% respectively, NNT score of synbiotic treatment was 8.67.

Conclusions. Synbiotic was associated with better SCORAD index reduction in 14 days than placebo, but this was not statistically significant. Synbiotic is not effective in treatment of AD in children.
CAREGIVER COMPLIANCE TO CONFIRMATORY TESTING FOR G6PD DEFICIENCY AT A TERTIARY GOVERNMENT MEDICAL CENTER

Maureen Teves, Arvin Escueta
Department of Pediatrics, Jose R. Reyes Memorial Medical Center, Philippines

Background: Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency is an inherited condition that can lead to a spectrum of symptoms if exposure to offending agents is not prevented. The newborn screening is a useful tool that detects the presence of this condition, as is the confirmatory test. Non-compliance to confirmatory testing has been attributed to lack of time, poor understanding of the procedure, and lack of money.

Objective: To determine the compliance to confirmatory testing of patients who tested positive for G6PD Deficiency via Newborn Screening Test at a tertiary government medical center between the years 2013 to 2014.

Methods: This is a retrospective cross-sectional study conducted among patients who were born and underwent newborn screening at a tertiary government medical center on January 2013 to December 2014. We conducted a follow-up survey using structured questionnaires to assess the compliance of the parents and caregivers to confirmatory testing.

Results: Out of the 3,570 infants who were delivered at the medical center, 143 (4%) were positive for G6PD deficiency on newborn screening test. We were able to track 62 patients, of which 39 (62.9%) were able to comply to confirmatory testing. The most common reasons for non-compliance to confirmatory testing were the following: “busyness/lack of time” (47.83%), uninformed (21.74%), and lack of funds (21.74%).

Conclusions: Reasons for non-compliance are lack of time, lack of knowledge and financial constraints. This shows that there is a need to improve the patient education programs of medical centers, particularly on the newborn screening program.
RELATIONSHIP BETWEEN HYPOGLYCEMIA AND HOME REMEDIES AMONG CRITICALLY ILL CHILDREN IN A DEVELOPING COUNTRY: AN UNDISCLOSED DANGER

Nwachinemere Uleanya1,2, Elias Aniwada2
1Pediatrics, Enugu State University Teaching Hospital, Enugu, Nigeria
2Community Medicine, University of Nigeria, Enugu Campus, Nigeria

Background: Critically ill children are those in need of immediate attention on presentation. Hypoglycemia is known to complicate many critical illnesses and lead to higher morbidity and mortality for affected children in sub-Saharan Africa. It’s effect is lethal as it has been shown to be an independent risk factor for increased mortality and worsening organ function. Many are of the opinion that herbal (home remedies) medications contribute to hypoglycemia among critically ill children.

Objectives: The study aims to determine the association between herbal medications and hypoglycemia.

Methods: Analytical cross sectional method was used to study critically ill children aged ≥ 1 month to ≤ 10 years admitted into the Children Emergency Room of Enugu State University Teaching Hospital, Enugu. Their admission blood glucose was done. Interviewer administered questionnaire was used to collect information needed.

Results: A total of 300 patients were recruited. Of these, 8 (47.1%) of those that had home remedies and 46 (16.6%) of those that did not receive home remedies had hypoglycaemia (p = 0.002). Those that received home remedies were about 4.3 times (95% CI: 0.082 - 0.673) and about 4.4 times (95% CI: 0.083 - 0.616) adjusting and un-adjusting for other factors respectively more likely to have hypoglycemia than those who did not receive home remedies.

Conclusion: Home remedies are sinister causes of hypoglycemia especially in the critically ill children and needs to be discouraged.
RELATIONSHIP BETWEEN GLYCEMIC LEVELS AND TREATMENT OUTCOMES AMONG CRITICALLY ILL CHILDREN ADMITTED INTO EMERGENCY ROOM IN ENUGU

Nwachinemere Uleanya, Ikenna Nwokoye, Elias Aniwada

1Pediatrics, Enugu State University Teaching Hospital, Enugu, Nigeria
2Pediatrics, Federal Teaching Hospital, Abakaliki, Nigeria
3Community Medicine, University of Nigeria, Enugu Campus, Nigeria

Background: Critically ill children are those in need of immediate attention on arrival to an emergency room. The importance of glycemic level measurement as well as maintaining the patency of the airway, effective breathing and circulation cannot be overemphasised. It has been highlighted that the peak hyperglycemia and hypoglycemia predict poor prognosis, longer lengths of hospital stay and higher mortality.

Objectives: The study aims to assess the relationship between glycemic level and treatment outcomes as well as length of hospital stay.

Methods: Analytical cross sectional study done among critically ill children aged ≥ 1 month to ≤ 10 years admitted into the Emergency Room of Enugu State University Teaching Hospital. Their admission blood glucose was done. Interviewer administered questionnaire was used to collect required information. Chi square, logistic regressions and Kruskal Wallis tests were done.

Results: A total of 300 patients were recruited. One hundred and seventeen (39%) had hyperglycemia, 62 (20.7%) patients had hypoglycemia and 121 (40.3%) had euglycemia. Two hundred and fifty two (84%) were discharged while 48 (16%) died. There was significant association between glycemic levels (glucose variability) and treatment outcome \( p = 0.001 \). Among the 48 who died, 12 (25.0%) had euglycemia, 21 (43.75%) had hypoglycaemia while 15 (31.25%) had hyperglycemia. On multivariate analysis, there was statistically significant association between hypoglycaemia and mortality \( p = 0.001 \). Those children with hypoglycaemia at presentation were about 4.7 times more likely to die compared with those with euglycemia (95% CI: 0.090 – 0.508). Although not statistically significant, those with hyperglycemia were about 1.6 times more likely to die compared with euglycemic children (95% CI: 0.266-1.500).

Conclusion: While both hypo- and hyperglycemia are associated with mortality, hypoglycaemia had a greater effect than hyperglycemia. Glycemic levels (glucose variability) significantly affects treatment outcome.
Intrauterine growth retardation is still an emerging issue in developing countries. It is linked with some short-term and long-term brain damage. We built up a IUGR rats model to investigate the structural change in brain tissue and expression of miRNAs concerning neural development. We found that the brain weight of IUGR filial rats are lower, brain structure is abnormal, especially in hippocampus. There was a little more apoptosis-positive cells in IUGR rats brains than the normal ones. The expression of miR-34c in cerebral cortex is lower in IUGR filial rats. With time the expression of miR-34c is getting higher. While the expression of miR-219 in cerebral cortex is lower in IUGR filial rats. With time the expression of miR-219 is getting lower. The result of our research showed that IUGR brains are abnormal in structures, abnormal cell apoptosis may be associate with poor neural behaviour. Alternative expression of miR-34c and miR-219 in IUGR brains could change the develop pattern of the brain is not certain.
TO EXPLORE THE ENERGY EXPENDITURE RATE OF PRETERM INFANTS IN DIFFERENT POSITIONING

Teh-Ming Wang
Pediatrics, Taichung-Veterans General Hospital, Taiwan

Background: With low birth weight infants (LBWIs) survival chances increase, their nutritional supply and energy consumption issues have caused great attention. For premature infants (PTIs), recent research shows that early nutrition supply will result in the long-term impact of results. Due to LBWIs have very poor storage energy situation and it is very difficult to maintain their enough energy for the needs of growing as well as developing. Using concise measurement method to evaluate the nursing treatments for PTIs becomes an essential issue.

Purpose: The purpose of this study was to evaluate the effect of supine (SP) and prone position (PP) on the energy expenditure (EE) and the distribution of EE during these different positions on LBWIs.

Methods: A prospective, randomized, crossover design was used to examine the relationships between sleeping positions and EE in one group of PTIs. The HR-based EE-estimates was used as the base of the measurement of EE. The purposive sampling was used to recruit PTIs from Taichung Veterans General Hospital III neonatal intensive care wards. Research data were collected by repeated-measuring in every minute and were analyzed by Generalized Linear Models in GEE.

Results: A total of 13 PTIs were enrolled to our research and total 4046 times measurements were collected during one research year. Mean EE in PP was 39.18 cal/kg–min and in the SP it was 39.41 cal/kg–min. EE was significant lower in PP than SP (p=.017).PTIs showed a significantly decrease with the increase in age (days) at study (p=.000).

Conclusion: The HR-based EE-estimates is a concise measurement method of EE analysis for PTIs; besides it is able to continuous measure EE in PTIs without interrupt the implementation of interventions. The results of this study demonstrated that health and growing PTI in the PP can preserve more energy than in the SP.
THE EFFECTIVENESS OF IMMUNIZATION AGAINST ROTAVIRUS IN CHILDREN HOSPITALIZED IN THE WARSAW DEPARTMENT OF PEDIATRICS IN 2011 – 2013 (1)

Teresa Jackowska1,2, Dominika Kowalska-Kuassi1,2
1Department of Pediatrics, The Centre of Postgraduate Medical Education, Poland
2Department of Pediatrics, Bielanski Hospital, Poland

Introduction: Rotavirus (RV) vaccination is considered the most effective public health strategy to prevent RV infection and to reduce disease burden.

Aim: The aim of this study was to estimate the vaccine coverage in children hospitalized in one Warsaw department of pediatrics in 2011-13 and the influence of the vaccination.

Methods: We revived 7590 medical histories of all children admitted to the Pediatric Department of Bielański Hospital in Warsaw in 2011-2013 (3 years).

Results: During the study period, there were 7590 hospitalized children including 18.2% of GE diagnosis. The main cause of gastroenteritis (GE) was rotavirus infection. Among all hospitalized children, barely 15.7% to 19.8% of patients received at least one dose of vaccine. The vast majority of children completed the full regimen of vaccination: 86% in 2011, 84% in 2012 and 96% in 2013. Most of children (90.8%) received the monovalent vaccine (Rotarix).

Conclusions: Vaccination coverage in one Warsaw pediatric ward was accounted for maximum 19.8% and it remains too low to have a significant effect on the burden of acute RV gastroenteritis hospitalizations.

E-Poster 48

RIISING INCIDENCE OF WHITE COAT HYPERTENSION AND MASKED HYPERTENSION IN OBESE CHILDREN

Mohammad Ilyas
Pediatrics, University of Florida, USA

Background: Ambulatory blood pressure monitor has established its role in evaluation of white coat hypertension in adults. Its role in obese children and adolescents is currently being established. This study highlights the role of ambulatory blood pressure monitor in determining the incidence of white coat (WCH) and masked hypertension (MH) in obese pediatric patients.

Objectives: To determine the incidence of white coat and masked hypertension in pediatrics patients as determined by ambulatory blood pressure monitor in relation to overweight and obesity.

Methods: We evaluated 175 pediatric patients presented to our center with hypertension. An ambulatory blood pressure monitor was obtained. We compared clinic blood pressure with ambulatory blood pressure. We classified the hypertension into normal BP, white coat hypertension, masked hypertension, stage 1 HTN with and without white coat effects, stage 2 HTN with or without white coat effect. These blood pressures readings were compared with BMI and gender.

Results: Out of 175 pediatric patient, 21.7% were normotensive, 38.9% were WCH, 16% were stage 1 HTN with white coat effects, 12 % were stage 1 HTN without white coat effects, 9.1% were MH, and 2.3% were stage 2 HTN. A total of 96 (54.9%) patients had WCH. The patients with BMI 30, 69.2% had WCH; patients with BMI 25-30, 61.9% had WCH and patients with BMI 25, 45.7% had WCH. A total of 9.1% patients had MH, of these patients 77.7% had BMI 25.

Conclusion: WCH is most prevalent in obese children as determined by ABPM. MH is a rising epidemic in children. Ambulatory blood pressure monitor is an effective tool to classify and evaluates the pediatric hypertension.
Background and aims: Quality of life is measured using individual questionnaires. These questionnaires are multidimensional and cover multiple aspects such as physical condition, emotional, social and cognitive status. The purpose of this study was to estimate the quality of life of adolescents with allergic rhinitis and to establish the best treatment.

Material and method: The study was performed on a total of 42 adolescents (aged between 12 and 18 years) admitted to a university children’s hospital in the period between 1 January 2013 and 31st December 2014. We performed a prospective observational study. Medical records contain written consent of the parents regarding investigations and therapy. To assess quality of life we used five symptoms score and visual analog scale. Statistical processing was performed by Student’s t-test.

Results: Regarding living conditions 20% of parents indicated that they have pets (dog or cat). Depending on severity score, patients were divided into two groups: 26% of patients with mild persistent allergic rhinitis and 74% of cases with moderate-severe persistent allergic rhinitis. After the first week of treatment, 80% of the 31 patients with moderate-severe persistent allergic rhinitis recognized a net improvement of symptoms, with a good quality of life without affecting daily activities and sleep. 10% of the 31 patients with moderate-severe persistent allergic rhinitis continued to maintain the source of allergens (cats and dogs) in the living environment. 7% of patients have not regularly administered treatment, being without family support.

Conclusions: Patients’ quality of life depends on the time of diagnosis, the promptitude of establishing treatment and allergen avoidance. Moderate-severe persistent allergic rhinitis significantly affects the quality of life. The quality of life is more affected as well as the total score of symptoms is higher.
INFLUENCE OF MEDIA EXPOSURE ON NEGATIVE BEHAVIOR AMONG SELECTED PRESCHOOL CHILDREN IN QUEZON CITY, PHILIPPINES 2015

Stephen Marciano, Felicia Lesmana
Pediatrics, Dr. Fe Del Mundo Medical Center, Philippines

Background: In developing countries, a child watches an average of three hours of television per day, and when they reaches 70 years old, that is equivalent to seven to ten years of watching television. Research has revealed numerous predictors of violent behaviors among adolescents, many of which relate to various forms of violence exposure as early as preschool age.

Objective: To determine the association of media exposure and negative behaviors among pre-schoolers.

Methods/Design: This is a cross-sectional study. A total of 49 preschoolers were observed by teachers with Child Behavior Checklist (CBCL) questionnaire. Parent’s survey and media diary were used to record each preschooler’s media exposure. The researcher analyzed 5 behavior subareas: emotionally reactive, anxious/ depressed, withdrawn, attention problems, and aggressive behavior. Each pre-schooler’s CBCL score were computed for every behavior, then analyzed together with media exposure using fisher exact method with SPSS ver. 18 (with 95% CI, p-value 0.05).

Results: Majority have cartoons as favorite program. In group less than 1 hour exposure per day there is no significant relationship. Interestingly, as exposure time increased, more significant relationship appears. This showed in group 2, showing significant p-value 0.044 for ‘aggressive behavior’. Among group 3, significant relationship was seen in ‘Emotionally Reactive’, ‘Attention Problems’, and ‘Aggressive Behavior’ (p-value of 0.048; 0.048; 0.033 respectively).

Conclusion/Recommendations: Parents should be aware of the risks associated with children viewing violent imagery, as it promotes aggressive attitudes, antisocial behavior, fear, and desensitization. Review the nature, extent, and context of violence before children view even the program ratings is suitable for all age. Parents should be urged to closely monitor their children’s consumption of all media and to limit viewing as recommended by AAP. This research can be used for prevention measurement in limiting media exposure during early childhood.
BOVINE COLOSTRUM SUPPLEMENTATION AS ADJUNCT IN THE TREATMENT OF UPPER RESPIRATORY TRACT INFECTION AND ACUTE GASTROENTERITIS IN PEDIATRIC PATIENTS AT A TERTIARY HOSPITAL IN PHILIPPINES

Felicia Lesmana, Stephen Marciano
Pediatrics, Dr. Fe Del Mundo Medical Center, Philippines

Background: Bovine colostrum containing oligosaccharides, anti-microbial compounds and immune regulating constituents. It is effective in preventing bacterial attachment to the mucosal lining of the gut and the upper respiratory tract.

Objective: To determine the benefits of bovine colostrum as an adjunct therapy of Upper Respiratory Tract Infection (URTI) and Acute Gastroenteritis (AGE).

Methods/Design: This is a double-blind experimental, placebo-controlled study. All subjects who having URTI and/or AGE and came consulted on the first-third day of illness were included. Excluded are those patients who having abnormalities of the respiratory tract, those who requiring hospitalization or receiving corticosteroids/immunomodulators. Patients were divided into, group A which received Bovine Colostrum, given once a day for 1 week and group B which received the placebo given in a similar way by one nurse daily to have uniformity. The investigator, parents, and patients were blinded. The clinical sign and symptom were recorded daily by the interviewer.

Results: Majority (56%) of the subjects were aged 1-4 year old. 60% had URTI and 40% had AGE. In group URTI, there is a significant resolution of cough (p=0.006) and reduction of cold (p=0.005) at bovine colostrum group but no significant resolution of fever (p=0.44). In group AGE, there is a significant reduction of frequency of stool (p=0.009) and reduction of stool amount (p=0.02) at bovine colostrum group but no significant resolution of fever (p=0.5).

Conclusion/Recommendations: Bovine colostrum can be used as adjunct therapy in reducing frequency of cough and cold in URTI as well as in reducing frequency and amount of stool in AGE. No adverse effects were reported.
AN EVOLUTIONARY APPROACH TO FEBRILE SEIZURES AND THERMOREGULATION

Alexandra Kunz¹, Sandeep Sood²
¹Evolutionary Anthropology, Harvard University (Extension) student, USA
²Neurosurgery, Wayne State Medical School, USA

Introduction: Febrile seizures (FS) are always a relevant topic; thermoregulation and febrile responses, complex processes, are important aspects of the unsolved puzzle.

Methods: Here, FS are explored from comparative “evolutionary pressure” data-sets for insights/contributing factors to age dependent vulnerability.

Results/Discussion: Thermoregulatory responses’ evolutionary quest is for maximal performance at optimal temperature, experimentally shown for insects’/viruses’ population growth, as performance. Relying on external heat sources, ectotherms’ narrow range of performance thermal sensitivities is explained by natural selection (prey/predator), not thermodynamics; endotherms’, birds’/mammals’, thermally constrained set-points evolved promoting heat loss, as enhancing performance. Mammalian brains’ selective brain cooling (SBC) is a special evolutionary case within the thermal core because hyperthermia, causing febrile seizures, limits performance; SBC separates brain temperature (T) regulation independently from the body to keep $T_{brain} > T_{trunk}$ p0.01.

Species-specific SBC mechanisms during hyperthermia promote reversing normal blood flow, from brainàskin to skinàbrain, to cool/maintain constant cerebral metabolism. A 4-part venous pathway connects extracranial diploic/emissary veins with intracranial meningeal veins/sinuses; the richly vascularized/complex human diploe has an age dependent developmental pattern, fully established, age 5, large variations at each age. Primate emissary veins respond immediately to hyperthermia; their parietal/mastoid/condyloid/post-glenoid foramina prominence shifts in an evolutionary pattern: Tarsius 0%,0%,0%,100%; Lemurs 0%,74.4%,0%,99%; orangutan 3%,81.6%, 1%,2%; chimpanzee 8.7%,14%,16.5%,0%; human 60.5%,68%,77%,0.6%.

Furthermore, intrinsic brain geometry plays an important evolutionary role in thermoregulatory patterns/heat distribution. Notably, perinatal discontinuity of ontological size/shape changes in chimps/humans at 2-4 months, p0.0044, produces topographical changes in vascular system; an expanded human frontoparietal volume, now globular, with highest concentration of diploic/emissary veins, richly anastomosed/reticulated, affects heat dissipation. Brain surface:volume ratio values for chimps'/humans’ heat loading, 1.59 vs 0.91, respectively, confirms globular shape decreases thermic values in heat transfer.

Conclusion: In light of evolution, human ontological variations offer an option to FS’ unsolved puzzle.
EVALUATION OF THE COURSE OF ACUTE DIARRHEAL DISEASE, IN CHILDREN BETWEEN 1 AND 5 YEARS, ASSOCIATING PROBIOTICS (SACCHAROMYCES BOULLARDII) WITH CONVENTIONAL MANAGEMENT

Eliana Patricia Ramirez, Laura Wilches, Carlos Rivera

PEDIATRIA, HOSPITAL MILITAR CENTRAL, Colombia

Introduction: acute diarrheal disease is the second cause of consultation in children under 5 years in the emergency department of the Central Military Hospital.

Objective: To assess the efficacy of probiotic administration associated with conventional management alone versus conventional management and placebo in children aged 1-5 years who attend the emergency department of a tertiary hospital with EDA

Method: randomized, double-blind.

Results: 190 patients were collected. 105 patients 85 treatment group and control group, bivariate analysis between treatment group and control group was conducted by comparing the proportions by chi square test. None of the comparisons was statistically significant, meaning that the groups are similar in all characteristics evaluated: gender, age, breastfeeding, macroscopic characteristics of stools, etc. The number of stools in both treatment groups was similar inicar, fifth day to decrease the number of bowel movements in the treatment group, 28% 5-7 stools was observed, decreasing to 3.4% and 0% over 7; 37.8% in the control bowel 2-4 group increased to 56.3% after five days. The 5th is 16.1% of cases without diarrhea in the treatment group vs 5.4% in the control group, significant difference (p = 0.02). The analysis in hours, shows difference in the average duration of diarrhea of 124.53 hours as a determining factor in the duration of diarrhea probiotic administration, the only statistically significant protective factor (p = 0.004).

Conclusions: The association of boullardi Saccharomyses to conventional treatment in acute diarrheal disease, changes the course of acute diarrheal disease, finding decrease in the number of bowel movements, improved stool consistency and giving a perception of improvement by parents, compared to conventional single operation.
STUDY ON BACTERIAL CONTAMINATION AND ANTIBIOTICS RESISTANCE PATTERNS OF BACTERIA ISOLATED FROM SURGICAL ROOMS AND NEONATAL INTENSIVE CARE UNITS (NICU) IN HAMADAN EDUCATION HOSPITALS, IRAN

Rasoul Yousefimashouf, Mina Momeni, Mohammad yousef Alikhani
Microbiology, Faculty of medicine, Hamadan University of Medical Sciences, Iran

Background and aim: Bacterial contamination in hospitals is one of the major problems in hospitals that cause serious damage to human and society. The aims of study were the evaluation of Antibiotics Resistance Patterns of Main Bacteria Isolated from Surgical rooms and Neonatal Intensive Care Units (NICU) in Hamadan Education Hospitals.

Material and Methods: In this study 400 samples were randomly collected from environments and apparatus of neonatal intensive care units and surgical rooms. Strains were identified and cultured on Mulerhinton agar for antibiogram tests by NCCLS method. The antibiotics were: ampicillin, ceftriaxone, ceftizoxime, erythromycin, vancomycin, gentamicin, cepahalexine, gentamycin, cefepim, azytromycin, imipenem and ciprofloxacin. Data was gathered through a questionnaire and analyzed using SPSS 13 software.

Results: The average rate of bacterial contamination of NICU of Fatemihe hospital was 73%. The most contaminated places were washing sink (100%), suction (74%) and the lowest was phototherapy (35%) and oxygen mask (44%), respectively. The most bacteria isolated were as follow: Staphylococcus epidemidis (17%), Bacillus subtilis (12.5%), Acinetobacter baumannii (11.3%) and E. coli (8.2%). Most of isolates (60%-90%) were sensitive against ceftriaxone, vancomycin, gentamicin and ciprofloxacin, whereas most of them were resistant to ampicillin, erythromycin and cepahalexine.

Conclusion: Our results showed the considerable bacterial contamination (73%) of NICU in particular with Acinetobacter baumannii and the high drug resistance in strains isolated from hospital, it seems that sterilization and disinfection methods in hospitals were not performed correctly. So, we recommended that health workers should be trained regularly to control the incidence of nosocmial bacterial.
Background: Methylmalonic academia consists of a group of autosomal recessive disorders affecting catabolic pathways of isoleucine, valine, methionine, threonine and thymine, which is caused by the defect of methymalonyl-CoA mutase or its coenzyme, adenosylcobalamin.

Objectives: To estimate the incidence of MMA on newborn screening in Shandong province from 2011 to 2014 and summarize the clinical presentation, biochemical features, mutation analysis, and treatment regime of early-treated patients with cblC disease.

Methods: The 35,291 newborns were screened for MMA in Jinan maternal and Child Care Hospital. The levels of C3, C3/C2, methionine and tHcy were measured. Most patients received treatment with intramuscular hydroxocobalamin after diagnosis. Metabolic parameters, clinical presentation and mental development were followed up.

Results: Nine patients were identified among 35,291 by newborn screening, giving an estimated incidence of 1:3920 live births for MMA, and all were classified as cblC disease. Among them, five patients received treatment and two patients did not receive any treatment. One patient died of metabolic crises triggered by infection at the age of 38 days. Seven different mutations were detected. The mutations (c.455_457delCCC and IVS1+1GA) are novel. Five patients who received treatment had favorable metabolic response. We obtained 7 records of DQ assessment. The five patients who received treatment presented with developmental delay and obvious neurological manifestations. In two patients who did not receive any treatment, case 8 presented with severe mental retardation and developmental delay, while case 9 had nearly normal DQ values at the age of 1 1/12 years.

Conclusion: Our study characterized variable phenotypes of neurodevelopment in early-treated cblC patients diagnosed on newborn screening. The long-term outcomes of cblC disease are unsatisfactory in spite of conventional treatment and improvement of biochemical abnormalities. Although the number of patients is too small, the information provided in this work is of value in highlighting possible genotype-phenotype correlation that influences outcomes in cblC disease by future studies.
ANTIBIOTIC RESISTANCE OF ß STREPTOCoccus HEMOLITICus IN CHILDREN WITH REACTIVE ARTHRITIS

Ninel Professor Revenco, Olesea Grin, Rodica Eremciuc

Pediatric Department, State University of Medicine and Pharmacy "Nicolae Testemitanu", Moldova, Republic of

Background: Post infectious reactive arthritis is a common pathology seen in the pediatric practice, due to the high incidence of respiratory and ORL diseases in children. The irrational use of antibiotics has increased the antibacterial resistance of the pathogenic microorganisms.

Aim: To analyze bacterial biofilms in the faringeal smear and the antibiogram in children with reactive arthritis.

Methods and materials: We present a retrospective study which included 163 medical histories of children with reactive arthritis. The analyze of the antibacterial susceptibility was made by the disk diffusion method.

Results: Data analyze put in evidence as most frequent pathogenic bacterial strains – Str. ß hemolyticus in 61,3% cases and S.aureus in 59,5% cases. Also were determined with an incidence below 2% - H.influenzae, E.coli, Kl. pneumoniae, Str. pneumoniae and Ps. aeruginosae. The antiobogram revealed the increased resistance of the Str. ß haemolyticus for the semisynthetic penicillins: amoxicilline in 47,5% cases and amoxicilline/clavulanate in 20% cases. High rates of antibiotic resistance was also assessed for the use of macrolides: azytromicin in 45,2% cases and erythromicin in 37,2% cases. The higher resistance of the Str. ß haemolyticus was established for the sulfamethoxazole/trimethoprime in 64,2% cases.

Conclusions: The most frequent microorganism seen in children was the Str. ß haemolyticus.

Based on our study, the higher resistance was for semisynthetic penicillin and macrolides – first line antibiotics used for the treatment of ORL infections.
TO COMPARE THE EFFECT OF ZINC SUPPLEMENTATION AND PLACEBO ON MORBIDITY AND MORTALITY IN CHILDREN WITH PNEUMONIA AGE 6 MONTHS TO 5 YEARS

Arun Kumar Singh
Paediatrics, King Edward Medical University, Pakistan

Pneumonia is one of the leading causes of morbidity and mortality in children younger than 5 years of age. Treatments are available for timely management of pneumonia but mortality is still high in developing countries like Pakistan. Zinc may have an important protective role in cases of childhood pneumonia and can help in reducing potential complications of pneumonia and can also help to reduce the incidence of mortality in children under five years of age. So we hypothesized this study to find the therapeutic role of zinc as an adjunct to standard therapy for pneumonia in comparison to placebo.
COMPARATIVE TESTING OF BETADINE® AND OTHER COMMERCIALLY AVAILABLE PRODUCTS ON VIRUSES BASED ON CURRENT EUROPEAN SUSPENSION ASSAY

Jun Xian Chua¹, Nur Humaira Binte Johari¹, Eng Lee Tan¹, Stefan Mueller²
¹Centre for Biomedical & Life Sciences, Singapore Polytechnic, Singapore
²Pharmacological & Translational Science, Mundipharma Research GmbH&Co KG, Germany

Background: Hand, Foot and Mouth Disease (HFMD) is a common infectious disease in the Asia-Pacific region affecting mainly infants and children, resulting in many fatalities, especially during outbreaks. Most enteroviruses are causative agents for HFMD; Coxsackievirus A16 (CA16) causes self-limiting HFMD whereas Enterovirus 71 (EV71) can cause neurological complications and fatality. No effective antiviral drugs/vaccines are currently available, and treatments are symptom-based with little effectiveness, especially against EV71.

Objective: To evaluate the antiviral activity of povidone-iodine (BETADINE®) products versus other commercially available products for hand disinfection, throat and oral applications.

Methods: CA16 and EV71 were evaluated using a virucidal quantitative suspension assay (DIN EN 14476). Products were tested undiluted except for lozenges, which were dissolved in an equal amount of water to a concentration of 1 g/ml. A 4 log₁₀ (99.99%) reduction of virus titre, evaluated by 50% tissue culture infective dose (TCID₅₀), was considered to demonstrate virucidal activity.

Results: BETADINE® products (10% antiseptic solution, 7.5% surgical scrub, 7.5% skin cleanser, 1% gargle, 7.5% gargle, 0.45% throat spray) and 70% ethanol were effective against both CA16 and EV71. Chloroxylenol liquid was effective against EV71. Other hand disinfection (chlorhexidine solution, octenidine gel, polyhexanide wound gel) and oral products (chlorhexidine mouthwash, hexetidine liquid, thymol, salt water, benzylamine hydrochloride and 1.2 mg 2,4-dichlorobenzyl alcohol/0.6 mg amylmetacresol lozenges) were ineffective.

Conclusion: BETADINE® products are effective against the leading strains of HFMD in Asia and Middle-East and may have a role in infection control to protect both the health care professionals and consumers during HFMD outbreak via prophylaxis and effective disinfection.

Sponsor: Mundipharma Research

*: BETADINE is a Registered Trademark.
SURVEY OF PUBLIC KNOWLEDGE AND PERCEPTION OF PEDIATRIC CLINICAL TRIAL

Shaoqing Ni, Chunmei Li, Linyan Qi, Qiang Shu, Lizhong Du
National Clinical trial institute, the Children's Hospital of Zhejiang University School of Medicine, China

Objective: This study was conducted to investigate the public knowledge and perception of pediatric clinical trial

Methods: The survey was conducted through We-Chat investigation network and hospital wards.

Results: The effective questionnaires are 1098 copies. The overall awareness rate of the clinical study is 50.8%. We found that about 12.0-25% people believe that clinical research is to treat people as experimental rats, 12.0%-16% medical related education people also has this choice. 62.8% people do not know, if the indication of drugs have not been studied in children, the children will be exposed to unknown risks. 68.7% people do not know that the subjects can stop research at any time. On how to reduce the concerns of the investigation, more than 60% choose the following three options “physicians detailed introduction of the whole procedure of the study”, “the full understanding of the research contents and risks” and “withdraw the study at any time, and will not be subject to discrimination or unfair treatment”. As to the attitudes of participating in the pediatric clinical research, approximately 37.8% people choose neutral. For “if a clinical study has no direct benefits and no harm to the subjects, but helpful for the future treatment of their own and other child” 52.9% are very willing and willing to participate, 33.4% remain neutral, 10.2% people are not willing to participate. For “what can encourage your children to participate in a clinical research”, most people (59.4%) choose “have the knowledge of the results after the research”. 86.8% of people think it is necessary to carry out pediatric clinical research education in the public.

Conclusion: The public knowledge about pediatric clinical trial is very limited. It is very necessary to enhance the public understanding of clinical research, and try to improve the pediatric clinical trial recruitment difficulties.