Tl 24

IMPACT OF INFLUENZA-ATTRIBUTABLE DISEASE ON HOSPITALIZATIONS IN CHILDREN YOUNGER THAN 24 MONTHS WITH LOWER RESPIRATORY TRACT INFECTIONS (LRTI) IN SUBTROPICAL BRAZIL

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Background: Influenzavirus (Flu) is associated with high morbidity in children less than 24-mo old, with high rates of hospitalization. Recommendation for annual influenza vaccination has been extended to this age group in the USA. **Objective** : We evaluated the proportion of Flu-attributable disease in children younger than 2 years, admitted to a tertiary care hospital for LRTI during the 2004 influenza seasonal outbreak in southeast Brazil. **Methods:** All samples submitted for respiratory virus detection were tested for Flu by immunofluorescence and/or RT-PCR. Influenza positive samples were used for viral isolation and identification. Patient records were reviewed for length of hospital stay (LOS), need for oxygen supplementation (OS) and clinical diagnosis. **Results**: From March to May 2004, 159 samples were collected and 17 (10.7%) were positive for influenza A. Influenza virus was isolated from 6 samples, all of them A/Korea (H3N2). Of the 17 positive samples, 8 (47%) were obtained in April. Patient records were available for review in 12 cases (7 boys). Of these, 10 (83%) were < 9-mo old and 5 (42%) were 6- to 8-mo old. Bronchiolitis was present in 50%(6/12) and pneumonia in 33% (4/12). LOS ranged from 2 to 10 days and 58% had > 6 days. OS was required by 58% (7/12) of the patients and 71% (5/7) required O2 for 6 or more days. Bronchodilators and antibiotics were the two most frequent treatments used (92% and 42%, respectively). **Conclusions**: During this outbreak in a subtropical region of Brazil, influenza associated disease represented 10.7% of all hospitalizations in children less than 24 months of age with LRTI, and the associated morbidity was responsible for prolonged LOS and requirement for OS. The impact of influenza-associated disease on pediatric hospitalization could be reduced by vaccination in this age group.

TL032

NEGATIVE INTERACCTIONS BETWEEN Fe, Cu y Zn

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Introduction: Iron (Fe), copper (Cu) y zinc (Zn), are trace essential microminerals for life. Its deficiencies or excess are deleterious for human. The uptake of these metals is in the duodenum and small intestine. For the uptake, these metals use and share metals transporters localized in the apical membrane of the intestinal epithelial cells. **Objective**: To determine the effect of different molar ratios of Fe, Cu y Zn over their uptake and its interactions in intestinal epithelial cells (Caco-2). **Method s**: Caco-2 cells were grown with different molar ratios of Fe, Cu y Zn: a) directly in the culture media or b) in an in vitro digest of milk supplemented with the metals and we measured their uptake and studied its intracellular bioavailability with ferritin (Fn), metalothionein (MT) y CCS. **Results**: Fe uptake was inhibited by Cu y Zn. Cu uptake was inhibited only by Fe. A 1:1:1 molar ratio of Fe:Cu:Zn inhibited (45%) the uptake of Fe or Cu. Fn and CCS expression increased synergically when two metals were in the culture media. MT expression increased only when cells were incubated with Cu or Cu/Fe. **Conclusion**: These results suggest that increased molar ratios may produce an inhibition in the uptake of one or two metals. Supported by Universidad de Chile, DI TNAC 07/03

TL025

RESISTANCE TO PENICILLIN AMONG PNEUMOCOCCUS STRAINS ISOLATED FROM THE NASOPHARYNX OF HIV-INFECTED CHILDREN

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Introduction: The frequency of severe pneumococcal disease among children is of high public health interest because the HIV epidemics coincides with the emergence of pneumococcus strains resistant to penicillin and to many other antibiotics. Although the increased predisposition of HIVinfected children to invasive bacterial diseases has been well documented, few studies have detailed the differences in the colonizing pattern and in susceptibility to antibiotics of these bacteria among HIV-infected children. **Objectives**: To determine the resistance to penicillin among strains colonizing the nasopharynx in HIV-infected children aged 0 to 18 years followed up on an ambulatory basis and to identify the serotypes prevalent in this population. **Method s**: This was a cross-sectional observational study in which 112 swabs were collected from the nasopharynx of the children on the day of their monthly visit and a questionnaire was applied to the mothers. The collected material was processed in the microbiology laboratory of the hospital according to NCCLS norms and serotyping was performed at the CDC. Statistical analysis was carried out using the chisquare test. **Results**: The prevalence of nasopharyngeal colonization by pneumococci was 28.6%, with 15.6% resistance to penicillin (6.2% intermediate resistance and 9.4% full resistance). The serotypes identified were 6A, 6B, 7C, 9V, 11A, 13, 14, 15A, 16F, 18C, 19B, 19F, 23B, 23F, and 34. **Conclusions**: Resistance to penicillin among pneumococcus strains isolated from the nasopharynx of HIV -infected children in our service was not higher than that reported in the literature for healthy children.

P036

EVALUATION OF PHYSICAL CAPACITIES OF OBESE CHILDREN: THE USE OF A TEST FOR CARDIOVASCULAR FITNESS IN THEIR FOLLOW UP

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INTRODUCTION : Sedentarity plays a major role in the pathogenie of obesity in childhood. One of the strongest difficulties in the follow up of the obese child is his adhesion to physical activity programs. **OBJECTIVES** : To establish and validate a test to assess the level of physical activity (PA) and its progression in obese children, and to analyse the efficacy of this test. **METHODS** : 35 children were evaluated at baseline and after 3 months; and 27 of them at baseline, after 3 and 6 months. Evaluation included: body composition (skinfolds thickness, waist circumference, body mass index -BMI-), level of PA (by questionnaires and pedometer), cardiovascular fitness (assessed by the progression of heart rate during an effort test). **RESULTS** : At 3 months the group of 35 children reduced sinificatively BMI (p<0,001), waist circumference (p=0,03) and skinfolds thicknes (p=0,01). Time spent in PA increased (p<0,001) and hours of television dimi nished (p=0,003). Cardiovascular capacity improved in 80% of children, being this improvement significative for the hole group (p<0,0001). After 3 months the group of 27 children showed similar results and they remained stable at 6 months of follow up. **CONCLUSIONS** : The test for cardiovascular fitness is a simple, reproducible tool, that provides objective parameters of cardiovascular fitness and, thus of the daily level of physical activity performed by the obese child. The regular practice of PA, also in daily activities, and the decrease of sedentarity, allowed obese children to improve their body composition and cardiovascular capacities. Assessment and follow up of physical capacities of obese children represent useful ways to obtain good results in their therapy.

TL026

DIFFERENECES IN WEIGHT GAIN VELOCITY (WGV) IN VERY LOW BIRTH WEIGHT INFANTS (VLBW) BETWEEN CENTERS IN THE NEOCOSUR NETWORK

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Background: Nutrition has become a priority in the intensive care of VLBW infants. The WGV during the neonatal period, expressed in g/kg/day, is considered a determinant of the long term nutritional status of this infants. **Objectives**: 1) Assess the perinatal and postnatal factors (clinical and nutritional) explaining differences in WGV between centers. 2) Identify possible risk factors associated to poor WGV from comparing centers with the lowest and highest weight gain (benchmarking). **Design**: This a retrospective cohort analyisis of infants registered in the NEOCOSUR database (16 NICUs), born from January 2001 to December 2004, alive and with weight data at 28 days of life. Infant with major malformations were excluded. We developed multiple regression model to include centers (Model 1) + case mix (gestaciónal age (GE), sex, use of prenatal steroids, SGA, APGAR<6 at 5′)(Model 2), + clinical practice and complications (use of postnatal steroids, mechanical ventilation, BPD at 28 days, NEC, late onset sepsis) (Model 3) + and nutritional practices (use of TPN, age at enteral nutrition100 cc/kg/day) (Model 4). To accomplish the second objective, centers′mean WGV was adjusted with multiple regression model and then ranked in lower and higher quartiles. **Results**: Of the 3.974 VLBW infants we analyzed 2.419. We found a great variability in the WGV between centers, with the final predictive model (model 4) explaining only 31% of the overall variance. The centers final predicted WGV varies from 5,6 to 14,7 g/kg/day. Comparison of centers in the lower and higher quartile showed the lower group being older and heavier at birth with higher proprotion of SGA infants and less need for ventilatory support at birth. Nevertheless they present greater incidence of delayed sepsis and NEC and lower use of TPN. **Conclusions**: The analysis showed a significant variability in WGV between centers, with model explaining just 31% of the overall predictive value. The comparison between centers suggests that control of LOS and NeC associated to greater use of TPN, would have a favorable effect in the WGV in centers with poor nutritional performance.

P038

MATERNAL BODY IMAGE PERCEPTION OF OVERWEIGHT AND HEALTHY CHILDREN FROM LOW-SOCIOECONOMIC LEVELS IN CHILE

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Background: The maternal perception of their children's weight and body image can affect beliefs in families regarding eating habits, exercise patterns and weight expectations. Recognition of children who are overweight or at risk for becoming overweight is important so that prevention and treatment strategies may be implemented early in life. **Objectives**: To evaluate the association between maternal perceptions of their own and their child's body image as well as compare the feeding practices, physical activity and maternal perception of body image between the mother's of obese children and the mother's of non-obese children. **Methods**: We studied the maternal perception of body image of 15 mothers of overweight children (MOC) and 15 mothers of non -overweight children (MNOC) (18 to 36 months) who attended the well baby clinic in an urban neighbor of Santiago, Chile. The assessment of maternal perception included a questionnaire (closed questions) which included figures of mothers and children whose body image ranged from very lean to obese. Anthropometrics (weight, height) measurements of children were gathered at the time of the interview and mothers self reported their weight and height. **Results**: Mothers in both groups, were able to accurately choose a figure that closely resembles the body image of their child. Eleven out of 15 MOC were not happy with the body image of their child whereas only 1 of 15 MNOC was not happy with the body image of her child. The MNOC preferred that their child stay the same body image or become a little heavier. The MOC preferred that their children become much skinner. Eight out of 15 MOC evaluated a lean figure of child as normal vs 3 out of 15 MNOC (χ^2, p=0,062). The mothers of various nutritional status (normal, overweight or obese) were able to accurately describe themselves and pick a figure that represents their body image in both groups. There was a difference in the consumption of healthy foods (fruits and vegetables). All of the mothers of healthy children reported that their child's favorite food to eat is either fruits, vegetables or both whereas only 2 mothers of overweight children stated that their child likes fruits or vegetables. French fries and soup were two popular food choices among the overweight children whereas none of the healthy kids reported French fries as their favorite food. The mothers of both groups were able to accurately describe themselves and pick a figure that represents their body image. **Conclusions**: The mothers in this study have an accurate perception of their child's and their own nutritional status and could choose a picture that accurately represents their body image. Mothers of obese children were not happy with the body or the body image of their child and would prefer that their child loose weight. Mothers of obese children have a perception of normal body image that differs from that of mothers of non-overweight children; mothers of obese children referred to an image of a skinny child as a figure that represents the normal body image of a child. It is important to understand the body image perception of mothers and use their assistance when implementing childhood obesity prevention programs.