

doi:10.1016/j.ijid.2010.02.2123

57.041

The impact of socioeconomic factors on risk and frequency of hospitalization for infectious diseases among teenagers in sub-sahara Africa

O. Udorji<sup>1,\*</sup>, C. Ude<sup>2</sup><sup>1</sup> Association for Integrity in Healthcare Research, Enugu, Nigeria<sup>2</sup> University of Nigeria Enugu Campus, Enugu, Nigeria

**Background:** The association between socioeconomic status and illness in adults and childhood has been studied extensively but the relationship between socioeconomic status and the risk and frequency of hospitalization has not been well studied among teenagers. The purpose of this study was to shed light on the individual socioeconomic status on the risk and frequency of hospitalization in a survey among Teenagers in sub-sahara Africa. This study was to evaluate the influence of socioeconomic factors on the hospitalization of Teenagers with infectious diseases

**Methods:** A survey of 1250 teenagers were conducted to ascertain the impact of socioeconomic factors on the risk and frequency of hospitalization of infectious diseases. The main exposure variables adjusted for confounding factors were parents education, parents income and residence location and type of apartment. Hence multiple linear regression analysis was applied for the analysis.

**Results:** 1250 respondents with age 15.61 + 3.71 yrs, male 52.5%, female 47.5%. Teenagers with low income parents showed the greatest rate of hospitalization than for the average and high income parents. In respect of the risk of sickness, teens with high income parents showed the highest level compared to the average and low income counterparts. The risk of hospitalization was increased in teenagers of parents with a low level of education compared with vocational education. Malaria was the leading infectious disease in respective of the level of income, education, residence type and location. Malaria is a major health problem and among the top leading causes of morbidity in Africa. Low socioeconomic status showed a significant association with the rate of being sick of infectious diseases. There was no significant relationship that exist for the risk and frequency of hospitalization with the location and type of apartment.

**Conclusion:** The results of this study provides evidence that socioeconomic factors can be incriminated as a predisposing factor for increased rate of hospitalization but could not be established for the risk of infectious diseases. Hence, support for undertaking larger epidemiological studies to ascertain objectively the impact of socioeconomic status on the risk and frequency of hospitalization in sub-sahara Africa, so that future preventive efforts can be better understood.

doi:10.1016/j.ijid.2010.02.2124

58.001

Seroprevalence of *Toxoplasma gondii* antibodies amongst pregnant women at Lagos State University Teaching Hospital

A. Akinbami

LASUCOM, LAGOS, LAGOS, Nigeria

**Background:** *Toxoplasma gondii* (*T.gondii*), an obligate intracellular parasite found in many species throughout the world, causes a variety of clinical syndromes in humans and animals. It is also associated with morbidity and mortality in pregnancy. Hence the need to determine the seroprevalence of antibody to toxoplasmosis gondii amongst pregnant women.

**Methods:** A cross-sectional study was carried out using patients attending the ante-natal clinic of Lagos State University Teaching Hospital Ikeja. All consenting newly registered antenatal patients were recruited consecutively into the study within a time frame of six weeks during which a total of 179 pregnant participants were obtained. Participants filled self administered questionnaires. Five milliliters of blood was collected from each participant after obtaining patient's consent. Sera were assayed for antitoxoplasmosis IgG antibody by enzyme linked immunosorbent assay. (ELISA.)

**Results:** A total of 179 pregnant women were studied. An assessment of patients' status to anti-toxoplasmosis IgG showed 40.8% were positive while 59.2% were negative.

**Conclusion:** It appears that seroprevalence of toxoplasmosis IgG antibody amongst the pregnant women in this study population is high. Therefore, it is valuable to follow up the IgM-antibody status of their off springs which indicates recent exposure.

doi:10.1016/j.ijid.2010.02.2125

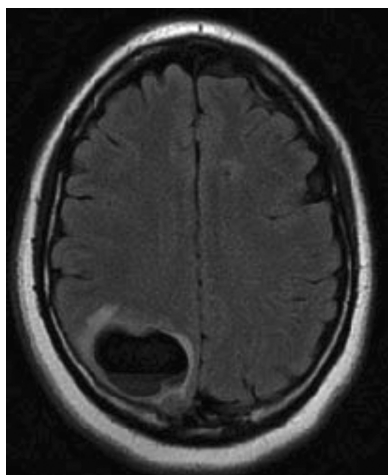
58.002

Atypical neuroimaging of neurocystercercosis

L.D. Wilke\*, J. Farrell

OSF St. Francis, Peoria, IL, USA

**Background:** A 29 year-old Haitian-born woman, who moved to Chicago at the age of five, was brought to the emergency department (ED) by the local police, where she had a witnessed seizure. She was afebrile and physical exam was only remarkable for several tongue lacerations consistent with bite marks. MRI revealed three ring enhancing supratentorial cystic lesions. The largest was a 4.1 × 2.7 cm well circumscribed cyst centered within the subcortical white matter of the right posterior parietal lobe containing a fluid/fluid level with a small rim of circumferential edema.



Right posterior parietal lobe NCC cyst on MRI.

**Methods:** CT scan of the head demonstrated multiple, bilateral supratentorial calcific nodules highly suggestive of Neurocystercosis (NCC). Abdominal ultrasound was negative for focal hepatic lesions. Anticonvulsant and steroid treatment were begun.

**Results:** Serum was sent to the parasitology lab at the CDC for NCC serology, and it was positive. The patient completed an 8-day course of albendazole as an outpatient without incident, but presented one month later with recurrent seizures refractory to IV anticonvulsant therapy.

**Conclusion:** NCC is a parasitic infection of the brain caused by the tapeworm *Taenia solium*, and is the most common cause of late-onset seizures in countries where the infection is endemic, such as Haiti (1, 2). Diagnosis can be made clinically or by serology, but neuroimaging using MRI and CT have improved diagnostic accuracy (1). Vesicular (living) cysticerci appear as isodense cystic lesions with thin walls without perilesional edema. The scolex is usually visualized as a "hole-with-dot" lesion (3). Colloidal cysts (degenerating parasites) are ill-defined ring-enhancing lesions surrounded by edema. Granular cysticerci (continued degeneration) appear as nodular hyperdense lesions surrounded by edema or a rim of gliosis. Calcified cysticerci appear on contrast enhanced images as small hyperdense nodules without perilesional edema or abnormal enhancement after parasite death. The large fluid/fluid containing cyst noted in our patient presented a diagnostic challenge. Published reports of large central nervous system cysts with intracystic fluid/fluid levels are lacking in the NCC literature. But the CT findings, positive serology for NCC and the low likelihood of two parasitic diseases of the brain convinced us of the diagnosis of NCC.

doi:10.1016/j.ijid.2010.02.2126

### 58.003

#### Detection of *Toxoplasma gondii* antibody for diagnosis of ocular toxoplasmosis

F. Maleki<sup>1,\*</sup>, S. Sarafpoor<sup>2</sup>

<sup>1</sup>Iran University of Medical Sciences, Tehran, Iran, Islamic Republic of

<sup>2</sup>Iran university of medical sciences, Tehran, Iran, Islamic Republic of

**Background:** Forty patients with cataracts, as well as 40 patients with proven ocular toxoplasmosis were enrolled in this prospective clinical study.

**Methods:** Serum IgG and aqueous IgG in both group were measured by enzyme linked immunosorbent assay (ELISA) and the corresponding ratios were calculated.

**Results:** Serum IgG/ Aqueous humor IgG ratio was less than 100 in the patient group and more than 100 in the control group. On the other hand in the chorioretinitis subgroup the ratio was less 13, while in the group with uveitis, the ratio was more than 13 ( $P < 0.05$ ).

**Conclusion:** The results revealed that calculating the ratio = SerumIgG (antitoxo)/AqueousIgG (antitoxo) may be helpful as an adjunct to diagnosis in cases with clinically atypical ocular toxoplasmosis.

doi:10.1016/j.ijid.2010.02.2127

### 58.004

#### Two-dimensional gel electrophoresis analysis of *T. solium* cysticerci lower molecular mass (10–30 kDa) antigens for the serodiagnosis of neurocysticercosis in children

V.S.R. Atluri\*, P.D. Singhi, N. Khandelwal, N. Malla

Postgraduate Institute of Medical Education and Research, 160012, Chandigarh, India

**Background:** Neurocysticercosis (NCC) caused by *T. solium* cysticerci is an increasingly important health issue in Indian children. The sensitivity and specificity of available serological techniques were low in case of single cysticercus granuloma cases which is a more common feature in Indian patients.

**Methods:** Serum samples were collected from 13 clinically and radiologically suggestive NCC children and seropositive by ELISA, 25 clinically and radiologically suggestive NCC children and seronegative by ELISA and 25 control subjects. The 10–30 kDa antigens of *T. solium* cysticerci were subjected to 2-dimensional gel electrophoresis (2D-PAGE) followed by Enzyme-linked immunoelectrotransfer blot (EITB) assay to detect antibody in serum samples. PDQuest software (Bio-RAD) was used to analyze the Isoelectric Point of the protein spots obtained in the 2D-PAGE.

**Results:** Analysis of 10–30 kDa antigenic fraction 2D-PAGE map showed 31 proteins between 10–28 kDa and innumerable proteins between >28–30 kDa with the Isoelectric point of 3–10. All the 13 (100%) NCC seropositive and 15 (60%) out of 25 NCC seronegative samples were reactive with 2D fraction antigens. In the control group, none of the serum was reactive except 2 hydatid samples (92% specificity). Antigenic fractions present in between 28–30 kDa with 3–10 pI