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Selected Abstracts of the 8th World Summit on Pediatrics

ADVANCES IN PEDIATRICS IN TECHNOLOGY, MENTAL HEALTH, CHILD DISPARITIES, NUTRITION, AND IMMUNIZATION STRATEGIES

MADRID (SPAIN) · OCTOBER 3RD-6TH, 2024

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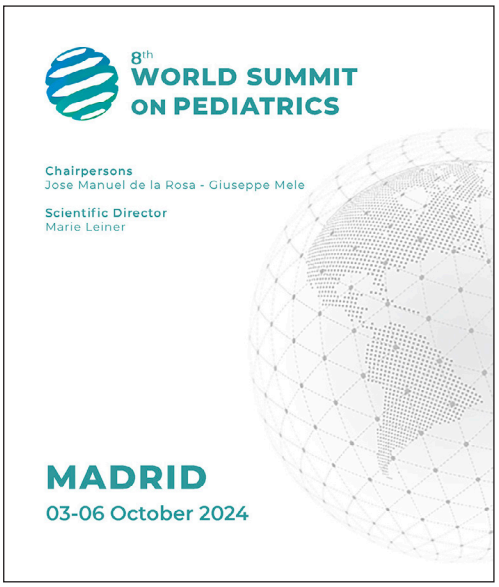

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ABS 1

ABSTRACTS PRESENTATION FOR THE 8TH WORLD SUMMIT ON PEDIATRICS

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The *8th World Summit on Pediatrics*, held from October 3 to October 6, 2024, in Madrid (Spain) at the Vincci Soho, brought together pediatricians, researchers, students, and other professionals in the field to address crucial topics impacting child health globally. Under the theme "*Advances in Pediatrics in Technology, Mental Health, Child Disparities, Nutrition, and Immunization Strategies*," the congress expanded on the overarching concept of Social Pediatrics, focusing on the interplay between health, society, environment, school, and family in shaping childhood well-being.

This prestigious event featured plenary lectures, poster presentations, and abstract sessions that explored innovative solutions and challenges in pediatric care. Topics of particular emphasis included:

- technological advancements and their integration into Pediatrics;
- strategies for addressing mental health challenges in children and adolescents;
- the impact of disparities on child health outcomes and access to care;
- cutting-edge research in nutrition and immunization strategies.

The included abstracts reflect the diverse and profound contributions presented at the Summit. These encompass:

- rare case reports and clinical innovations: insights into uncommon conditions and their management;
- mental health and psychosocial issues: understanding the dynamics of anxiety, depression, and social stressors in children and adolescents;
- access to care and quality of life studies: exploring disparities in healthcare delivery and their implications for pediatric populations;
- technological advances and AI applications: investigating the role of emerging technologies in improving pediatric outcomes.

The *8th World Summit on Pediatrics* emphasized the urgent need for collaboration among healthcare providers, educators, and policymakers to create actionable solutions for improving child health and addressing social determinants of health. These abstracts are a testament to the ongoing dedication and innovation within the field of Pediatrics.

We trust that these contributions will provide valuable insights and foster meaningful discussions in the broader pediatric community.

ABS 2

LEVELS OF DEPRESSION AND ANXIETY AMONG STUDENTS OF LEYTE NATIONAL HIGH SCHOOL AFTER REOPENING OF IN-PERSON CLASSES

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BACKGROUND

Depression and anxiety remain the most common mental health problems in adolescents, particularly among high school students. Despite this, limited studies globally have examined these issues, especially in the context of the COVID-19 pandemic. This research seeks to address gaps in knowledge about depression and anxiety among high school students in this locale.

OBJECTIVES

To determine the levels of depression and anxiety in association with the socio-demographic profiles of high school students after the reopening of in-person classes following the lifting of COVID-19 protocols during the school year 2023-2024, at Leyte National High School (Tacloban City, Philippines).

METHODOLOGY

A descriptive cross-sectional study was conducted using the Patient Health Questionnaire – 9 (PHQ-9) and General Anxiety Disorder – 7 (GAD-7) questionnaires. Eligible participants were students in Grades 7 to 12, not previously diagnosed with neuropsychiatric disorders or chronic debilitating conditions. Respondents were selected via proportionate stratified sampling and the fishbowl method from a total population of 9,713 students. Data on PHQ-9 scores, GAD-7 scores, and socio-

demographic profiles (age, sex, grade level, parents' marital status, educational attainment, occupation, and monthly family income) were analyzed using mean, rates, ratios, and percentages. Chi-square tests were performed with SPSS® to determine associations, with the significance level set at 5%.

RESULTS

Data analysis included 392 students with a mean age of 14.8 years. Females comprised 64%, while males accounted for 36%. Severe levels of depression and anxiety were detected in 7.4% and 8.9% of respondents, respectively. These students were primarily late adolescents, mostly females, in Grade 12, and with widowed parents. Depression was significantly associated with age, sex, and grade level, while anxiety was significantly associated with age, sex, and parents' marital status.

CONCLUSION

The overall level of depression among students was mild to moderate, while anxiety levels were moderate. Approximately 1 in every 10 students is at risk for symptoms of depression and anxiety, with higher prevalence in late adolescents, females, Grade 12 students, and those with widowed parents. Further research is recommended to explore other contributory factors such as family dynamics, gender identity, and social stressors.

ABS 3

WHEN A FUNCTIONAL NEUROLOGIC DISORDER OVERLAPS WITH AN UNCOMMON ADVERSE DRUG REACTION: A CHALLENGING DIAGNOSIS

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BACKGROUND

Functional neurological disorder (FND) refers to symptoms of altered voluntary motor or sensory function that are clinically incompatible with recognized neurological conditions and cause significant distress. The etiology includes predisposing factors (psychiatric disorders, social stressors) and precipitating factors (acute infections, trauma, emotional shock). Sertraline, a selective serotonin reuptake inhibitor (SSRI) prescribed as an antidepressant in adolescents, can be implicated in serotonin syndrome, an adverse drug reaction caused by serotonin toxicity in the central nervous system. Serotonin syndrome presents with autonomic signs, neuromuscular excitation, and altered mental status.

CASE DESCRIPTION

A 13-year-old female adolescent presented with acute ataxia, upper limb paresis, and dysarthria, preceded by cough and fever in the prior week. She had a history of depressive syndrome and had been on sertraline therapy (50 mg/day) for 6 months. Clinical examination revealed hyperreflexia of all limbs and bilateral clonus. Investigations, including cerebral-medullary magnetic resonance imaging (MRI), lumbar puncture, electroencephalogram (EEG), and electromyography (EMG), were normal. Creatine kinase levels were normal, and tests for Influenza A were positive. Toxicological screening showed no urinary toxins, and sertraline levels were low (4 ng/mL).

Inconsistencies were noted during the neurological evaluation: muscle strength was normal in segmental tests but reduced in global tests, and the patient exhibited apparent indifference to her disability. These clinical positive signs supported the diagnosis of FND as the explanation for dysarthria, paresis, and ataxia. Considering a possible adverse drug effect, sertraline was discontinued, leading to a regression of pyramidal signs within a week. One month later, with outpatient psychological and physiotherapeutic care, the patient showed complete resolution of paresis and significant improvement in ataxia and dysarthria.

DISCUSSION

Despite the presence of predisposing and precipitating factors and clinical positive signs for FND, the diagnosis was challenging due to signs of neuromuscular excitation. A literature review revealed rare cases in the adult population where similar signs occurred at standard doses of sertraline, regardless of the time elapsed since therapy initiation.

CONCLUSION

Sertraline can cause serotonin syndrome at standard doses and even at a distance from therapy initiation. While the current approach favors a clinical diagnosis of FND, this case demonstrates the importance of paraclinical investigations in identifying confounding factors and achieving an accurate diagnosis.

ABS 4

ACCESS TO SERVICES, QUALITY OF CARE AND QUALITY OF LIFE FOR CHILDREN WITH AUTISM SPECTRUM DISORDER: A CROSS-

SECTIONAL STUDY FROM CAREGIVERS' PERSPECTIVE

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INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental condition associated with a significant burden of psychiatric and physical comorbidities. Addressing the complex health, social, and educational needs of children with ASD is crucial, as these factors impact their quality of life (QoL).

OBJECTIVE

To assess the accessibility and quality of complex services provided to children with ASD and evaluate their QoL.

MATERIALS AND METHODS

A cross-sectional study was conducted using an anonymous questionnaire for caregivers (n = 97) of children aged 2-17 years with ASD in Lithuania. The accessibility and quality of services were assessed using an adapted National Survey of Children with Special Health Care Needs. The Pediatric Quality of Life Inventory (PedsQL general) proxy questionnaire was used to evaluate the children's QoL.

RESULTS

- Healthcare access: 71% of children received at least one healthcare service in the past 12 months. Children under 7 years used healthcare services more frequently than older children ($p < 0.05$).
- Most used services: speech therapy, consultations with developmental pediatricians or child and adolescent psychiatrists, and physiotherapy were the most commonly accessed services covered by health insurance.
- Financial burden: 54% of respondents used services that required out-of-pocket payments.
- Coordination of care: 78% of caregivers expressed the need for assistance in coordinating care, but only 17% received such support.
- Parental dissatisfaction: 89% of parents reported feeling disappointed when trying to access services for their child.
- Specialist interaction: 32% of caregivers found specialists to be empathetic, and 25% appreciated their involvement in decision-making processes.
- Educational support: 70% of children received care and support from a multidisciplinary team in their educational institution, but one-third of caregivers reported insufficient specialist competencies in working with autistic children.
- QoL: the average QoL score was 49.01 points. QoL was significantly related to the use of services, satisfaction with those services, and the empathy shown by specialists ($r^2 = 0.369$).

CONCLUSIONS

The accessibility and quality of complex services for children with ASD in Lithuania remain insufficient. The QoL for children with ASD is relatively low and is strongly associated with inadequate access to and quality of services. Enhancing the coordination and delivery of services, along with improving specialist training, could significantly improve the QoL for these children and their families.

ABS 5

RECURRENT WHEEZING IN YOUNG CHILDREN: RISK FACTORS AND PREDICTION

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INTRODUCTION

Numerous studies emphasize the role of various risk factors, such as allergic sensitization and genetic predisposition, in the etiology of recurrent wheezing in young children. However, data on predicting wheezing recurrence in this age group remain limited.

OBJECTIVE

To identify additional risk and predictive factors for recurrent wheezing in young children.

MATERIALS AND METHODS

This study was conducted between June and December 2022 in the Pediatric Departments of Muratsan Hospital Complex and Wigmore Clinic Medical Center in Yerevan (Armenia). Ninety children aged 1 to 5 years were examined and evenly divided into two groups based on the presence or absence of wheezing. Within the wheezing group, two subgroups were formed based on the recurrence of episodes. A comparison was made between these subgroups to identify

additional predictive and risk factors associated with wheezing recurrence.

RESULTS

According to the results, there was no statistically significant difference between the comparison groups in terms of children's age and gender. Univariate and multivariate logistic regression analyses revealed that repeated antibiotic use during early life, premature birth, and cesarean delivery were significantly associated with recurrent wheezing. The study also investigated human leukocyte antigen-G (HLA-G), a genetic factor extensively studied in asthma pathogenesis in adults but with limited data in young children. Plasma soluble HLA-G (sHLA-G) levels were found to be significantly higher ($p < 0.05$) in the wheezing group compared to the control group, with similar findings in the recurrent wheezing subgroup.

CONCLUSION

Repeated antibiotic use during early life, premature birth, and cesarean delivery are significant risk factors for recurrent wheezing. The significant increase in plasma sHLA-G levels in recurrent episodes suggests its potential role as a predictive marker for recurrent wheezing in young children and possibly for future asthma development.

ABS 6

RIGHT PULMONARY ARTERY ORIGINATING FROM ASCENDING AORTA (HEMITRUNCUS ARTERIOSUS) WITH VACTERL ASSOCIATION IN A NEONATE: A CASE REPORT

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BACKGROUND

The VACTERL association is defined as a condition involving at least three of the following anomalies in the same infant: vertebral defects, anal atresia, cardiac anomalies, tracheoesophageal fistula, renal anomalies, and limb abnormalities. Cardiac defects commonly associated with VACTERL include ventricular and atrial septal defects, hypoplastic left heart syndrome, transposition of the great arteries, and tetralogy of Fallot. Anomalous origin of a pulmonary artery (AOPA) from the ascending aorta is a rare and critical cardiovascular anomaly, most frequently involving the right pulmonary artery (RPA).

CASE DESCRIPTION

A male neonate was delivered via normal spontaneous vaginal delivery at 39 weeks and 3 days of gestation, with a birth weight of 2,660 g. He was diagnosed with VACTERL association, presenting with five anomalies: vertebral abnormalities, anal atresia, a cardiovascular anomaly (RPA originating from the ascending aorta), tracheoesophageal fistula, and renal anomalies.

CONCLUSION

The AOPA from the ascending aorta as part of the VACTERL association is an extremely rare congenital cardiovascular malformation. This case report highlights an unusual presentation of RPA originating from the ascending aorta as part of the VACTERL association in a neonate.

ABS 7

LEMIERRE SYNDROME – NO LONGER LOST?

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BACKGROUND

Lemierre syndrome was discovered in 1937 and is clinically defined as thrombophlebitis of the internal jugular vein (IJV) following an oropharyngeal infection, typically of bacterial nature, namely *Fusobacterium necrophorum*.

CASE DESCRIPTION

A boy in his mid-teens presented with his mother to our Emergency Department in septic shock after a 1-week history of fevers, lethargy, diarrhea, and vomiting, which began with a sore throat. On arrival, he exhibited an obvious swelling in the submandibular region alongside inflamed and enlarged tonsils without pus. He was admitted to the adult Intensive Care Unit (ICU) with suspected lymphadenitis and later transferred to the pediatric High Dependency Unit (HDU). Initial radiograph imaging of the lungs and abdomen was unremarkable; however, further computed tomography (CT) imaging of the abdomen and pelvis revealed multiple nodules in the lung bases with central cavitation. A contrast-enhanced CT of the thorax and neck discovered a complex left-sided deep space neck collection with associated thrombophlebitis of the left IJV, with the lung nodules representing septic emboli. Microbiology culture and sensitivity (MC&S) of tissue and

pus samples showed growth of *Fusobacterium necrophorum* on day 6, fulfilling the diagnostic criteria for Lemierre syndrome.
The initial broad-spectrum antimicrobial regime of tazocin, clindamycin, and metronidazole was optimized to co-amoxiclav based on culture sensitivity. Incision and drainage of the neck swelling were also performed. The patient was discharged home 16 days after admission with a 4-week course of oral co-amoxiclav and was started on rivaroxaban. Further neck magnetic resonance imaging (MRI) showed complete resolution of the collection.
DISCUSSION
Lemierre syndrome affects 3.6 people per million, with incidence currently rising. The rarity of Lemierre syndrome means its diagnosis may be overlooked, or other differentials with similar presentations may be considered first, as seen here with lymphadenitis and Epstein-Barr Virus (EBV).
CONCLUSION
Lemierre syndrome was once considered forgotten, but cases are currently on the rise post-COVID-19. Clinicians should therefore consider this syndrome in patients with the appropriate clinical picture to ensure prompt action and optimal outcomes.

ABS 8

FROM ADVERSE CHILDHOOD EXPERIENCES TO INFLAMMATION: EXPLORING ITS ASSOCIATION IN MEXICAN CHILDREN

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BACKGROUND
Adverse childhood experiences (ACEs) are stressful and/or traumatic events that occur before the age of 18. Exposure to psychological stressors activates the immune system, particularly the inflammatory response. While some studies associate the presence of inflammatory markers with adversity, there remains a gap in knowledge regarding the influence of ACEs on inflammation during early childhood, especially in Hispanic countries. Understanding variations in biomarker responses to adversity could improve the validity of specific biomarkers and inform the development of early intervention strategies.
OBJECTIVE
To identify ACEs and explore their association with proinflammatory biomarkers in plasma (interleukin 1β [IL-1β], C-reactive protein [CRP], lipopolysaccharide-binding protein [LBP]) among Mexican children aged 3 to 5 years.
METHODS
This project was approved by the research committee of the Public Health Institute (No. 1860). It is an exploratory, cross-sectional, descriptive, randomized, and representative study of urban and rural localities in Mexico. Children aged 3 to 5 years whose parents provided written consent were included. Blood samples were collected, and plasma was analyzed for cytokine levels using commercial ELISA kits. Caregivers provided sociodemographic data and completed questionnaires regarding ACEs (PEARLS), the Strengths and Difficulties Questionnaire (SDQ), and household or child social risks. Anthropometric measures, including height, weight, and waist circumference, were also recorded.
RESULTS
The cohort included 208 participants with a mean age of 4 years; 43% were male. Most caregivers were aged 25-35 years, with 65% belonging to the lowest income group. ACEs scores showed that 49% of children had no ACEs, 24% had 1 ACE, 13.5% had 2 ACEs, and 14% had 3 or more ACEs. The most prevalent adversities were emotional neglect (22%), food insecurity (20%), divorce (14%), domestic violence (11%), and parental mental illness (7.2%). Additionally, 38% of caregivers reported symptoms of depression, and 44% reported poor home welfare conditions. SDQ scores indicated that 80% of children exhibited significant difficulties, particularly with peer and conduct problems. Preliminary biomarker analysis revealed a median CRP level of 0.47 mg/L (0.20-1.49) and a median LBP level of 2.64 μg/mL (1.84-3.74).
CONCLUSION
The most prevalent ACEs in this cohort were emotional neglect, food insecurity, and household challenges (divorce and domestic violence). However, there may be underreporting of adversities in some questionnaires. The population exhibits diverse types of adversities (socioeconomic, neglect), suggesting that adverse experiences in early life can promote mental health challenges. Further research is needed to better understand the relationship between ACEs and inflammatory biomarkers in early childhood.