

**Dept. of Epidemiology  
and Preventive Medicine**

**Center for the Study  
of Bioterrorism**

**Tiberio Swartz**

**Research Forum on Epidemiology of  
Infectious Diseases and Biosecurity**

**Fourth Meeting**

**25/10/2009**

**School of Public Health  
Sackler Faculty of Medicine  
Tel Aviv University  
POB 39040, Tel Aviv, Israel, 69978  
Tel: +972-3-6408572, Fax: +972-3-6409868**

# **Program**

**13:00 Registration & Light Refreshments**

**13:25 Opening Remarks**

**Prof. Daniel Cohen**

Head, Department of Epidemiology & Preventive Medicine, Tel Aviv University

## **First Session**

**Chairperson: Prof. Shmuel Rishpon**

**Haifa District Physician**

**Chairman, Steering Committee on Infectious Diseases and Immunization**

**Ministry of Health and Haifa University**

**13:30 A/H1N1 Influenza pandemic 2009 ("Swine Flu")**

**What happened so far and what can we predict (perhaps)?**

**Prof. Dan Engelhard**

Head, Department of Pediatrics, Hadassah Hospital and Hebrew University

Head, Epidemics Management Team, Ministry of Health

**14:00 The scientific basis for the current pneumococcal conjugate vaccine**

**Pediatric plan schedule in Israel**

**Prof. Ron Dagan**

Director, Pediatric Infectious Disease Unit, Soroka Medical Center

Ben-Gurion University of the Negev

**14:30 Community acquired pneumonia in children younger than 5 years of age in southern Israel**

**Dr. Shalom Ben-Shimol**

Pediatric Infectious Disease Unit, Soroka Medical Center

Ben-Gurion University of the Negev

**15:00 Coffee Break**

## Second Session

**Chairman: Prof. David Greenberg**  
Pediatric Infectious Diseases Unit, Soroka Medical Center  
Ben-Gurion University of the Negev  
Chairman, Clinical Pediatric Association

**15:30 Risk factors and Prevalence of *Streptococcus pneumoniae* carriage among recruits in Israel: a cross-sectional study**

**Dr. Hagai Levine**

Head, Department of Epidemiology, Medical Corps, IDF

**16:00 Estimate of incidence of infection of *Bordetella pertussis* in Israel: Comparing pre- and early booster vaccination era**

**Dr. Pamela Rendi-Wagner**

Dept of Spec. Prophylaxis & Trop. Med. Center of Physiology & Pathophysiology, Medical University Vienna, and Dept of Epidemiology and Preventive Medicine, Tel Aviv University

**16:30 Congenital CMV in Israel: prenatal screening and findings of a recent neonatal screening study**

**Prof. Dana Wolf**

Head, Clinical Virology Unit, Dept. of Clinical Microbiology & Infectious Diseases, Hadassah Hospital and Hebrew University

**17:00 Closing Remarks**

**The meeting will be held at "Lola" hall, Sackler Faculty of Medicine,  
Tel Aviv University Campus**

With the support of:



**The Diagnostic Specialist**

# **Abstracts**

## COMMUNITY ACQUIRED PNEUMONIA IN CHILDREN YOUNGER THAN 5 YEARS OF AGE IN SOUTHERN ISRAEL

*Shalom Ben-shimol, Ron Dagan, Noga Givon-Lavi, Yaakov Bar-ziv, David Greenberg*

Pediatric infectious disease unit, 'Soroka' University Medical Center and the faculty of health sciences, Ben-Gurion University of the Negev, Beer sheva

**Background** - Respiratory tract infections are a major cause of morbidity and mortality in children under the age of 5 years. The children population in southern Israel is divided to two main groups, Jews and Bedouins, who differ in their socioeconomic status, as Bedouins live in a lower status. Almost all children in southern Israel are being treated at the 'Soroka' university medical center.

**Study objective** – To compare the epidemiological and clinical data of Bedouins and Jewish children with community acquired pneumonia (CAP), who were treated at the 'Soroka' university medical center.

**Methods** - All chest x rays of children under the age of 5 years, taken at the 'Soroka' university medical center pediatrics ER, between 4.11.2001-31.12.2007, were evaluated for pneumonia. Demographic and clinical data were collected to determine morbidity, hospitalization and mortality rates. Blood cultures and nasopharyngeal washes were taken to determine the pathogens of CAP.

**Results** – 38,045 chest radiographs were evaluated, of which in 6,475 radiographs (17%) CAP was diagnosed. The risk of arrival to the ER with CAP in children under the age of 5 years was 9.5% for Bedouins and 5.4% for Jews ( $p < 0.01$ ). The cumulative risk for hospitalization due to CAP in children under the age of 5 years was 6.7% for Bedouins and 2.2% for Jews ( $p < 0.01$ ). Bedouins were younger than Jews (38% under 1 year of age vs. 23.7%,  $p < 0.01$ ). Tachypnea (73.9% vs. 61%) and hypoxemia (27.7% vs. 18.6%) were more prevalent in Bedouins. Pneumococcal bacteremia (7.7% vs. 0.7%,  $p < 0.01$ ) and mortality rates (2.6% vs. 0.3%,  $p < 0.01$ ) were higher in Bedouins.

**Conclusions** – Pediatrics ER visits due to CAP are common, especially in Bedouins. Bedouin patients were younger, with more severe clinical course and with higher rates of mortality, hospitalization and morbidity. Improving living conditions, medical services accessibility and immunization program (e.g. pneumococcal vaccine) could lead to reduction in gaps between the two populations.

## **RISK FACTORS AND PREVALENCE OF STREPTOCOCCUS PNEUMONIAE CARRIAGE AMONG RECRUITS IN ISRAEL: A CROSS-SECTIONAL STUDY**

*Hagai Levine<sup>1,2</sup>, Ron Dagan<sup>2,3</sup>, Salman Zarka<sup>1,4</sup>, Tamar Sela<sup>1</sup>, Vladislav Rozhavski<sup>1</sup>, Dani Cohen<sup>5</sup>, Ran D Balicer<sup>1,2</sup>*

<sup>1</sup> Army Health Branch, Israeli Defense Forces.

<sup>2</sup> Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

<sup>3</sup> Pediatric Infectious Diseases Unit, Soroka University Medical Center, Israel

<sup>4</sup> Haifa University School of Public Health, Israel.

<sup>5</sup> School of Public Health, Tel Aviv University, Israel.

**Background and aims** - The aim of this study was to characterize Streptococcus pneumoniae carriage among healthy young adults before mixing and training in confined settings in Israel as a basis for studying pneumococcal carriage dynamics and future prevention strategies.

**Methods** - A cross-sectional observational study was conducted in three different seasons among healthy male recruits during 2007. Oropharyngeal and nasopharyngeal cultures were sampled from 742 recruits and processed for Streptococcus pneumoniae identification and serotyping within 2-18 hours. All risk factors with  $P < 0.05$  found in Univariate analysis and a previously known risk factors (smoking) were included in Multivariate logistic regression analysis for evaluating pneumococcal carriage risk factors.

**Results** - Overall carriage rate was 6.6% (95% CI 4.8-8.4%). 3.0%, 2.4%, 1.2% were found in nasopharynx, oropharynx and both, respectively. 48% shared bottles often or always with carriage equals 9.4% vs 4.2% for those who shared bottles never, occasionally or sometimes. On multivariate analysis low bottle sharing hygiene had odds ratio for carriage of 2.40 (95% CI 1.26-4.59). Having averagely more than 1 person per room at home and sampling in March (vs November and August) were other significant risk factors.

**Conclusions**- The results suggest that saliva may be an important mean of pneumococcal transmission, at least in adults.

## ESTIMATE OF INCIDENCE OF INFECTION OF BORDETELLA PERTUSSIS IN ISRAEL: COMPARING PRE- AND EARLY BOOSTER VACCINATION ERA

*Pamela Rendi-Wagner<sup>1</sup>, Joshua Tobias<sup>2</sup>, Anya Bialik<sup>1</sup>, Larisa Moerman<sup>3</sup>, Sophy Goren<sup>1</sup>, Ravit Bassal<sup>4</sup>, Tamar Shohat<sup>1,4</sup>, Dani Cohen<sup>1</sup>*

<sup>1</sup> Department of Epidemiology and Preventive Health, School of Public Health, Sackler Faculty of Medicine, Tel Aviv University

<sup>2</sup> Institute of Biomedicine, Department of Microbiology and Immunology, The Sahlgrenska Academy of Göteborg University, S-40530 Göteborg, Sweden

<sup>3</sup> Department of Epidemiology, Ministry of Health, Jerusalem

<sup>4</sup> The Israel Center for Disease Control, Ministry of Health, Tel Hashomer, Israel

Despite widespread use of vaccination an increased incidence rate of pertussis has been reported in several countries during the last decade. In Israel, vaccination is administered at 2, 4, 6, and 12 months, with an additional booster at 7 to 8 years of age since 2005. The value of routine surveillance data based on case notification is limited, yet, not detecting mild disease which may serve as an important "silent" source of transmission. High titres of antibody to pertussis toxin (PT) have been proven to be a reliable indicator of recent pertussis infection. The aims of this study were to document the age specific sero-profile of high antibody titres to PT to assess trends of pertussis and implications for prevention. Population prevalence of different levels of PT IgG antibody, measured by standardized methods, were analyzed for the pre-booster (2000 to 2001) and the booster vaccination era (2006 to 2007). In 2000, the estimation yielded an incidence rate of infection of 2448 per 100,000 population ( $\geq 3$  years of age) compared to an annual incidence of reported pertussis of 5.6 per 100,000 for the same period. The peaks of estimated incidence of infection were found in the groups of 15- to 19-year olds (5245 per 100,000) and older than 60 years (6469 per 100,000). Following introduction of a booster dose at school age, the population prevalence of high PT IgG antibody revealed a similar rate as in the pre-booster era, however, showing minor differences with regard to age and other demographic parameters. The findings show that despite a high vaccination coverage rate ( $>93\%$ ), there is still a considerable circulation of *B. pertussis*, particularly in adolescents and elderly. Population-based serosurveillance for pertussis offers the potential to assist interpretation of trends independent of notification and diagnostic bias.

# **Tiberio Swartz Research Forum on Epidemiology of Infectious Diseases and Biosecurity**

## **Program of the Fourth Meeting**

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**15:00 Coffee Break**

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# Tiberio Swartz Research Forum on Epidemiology of Infectious Diseases and Biosecurity

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**פורום מחקר באפידמיולוגיה  
של מחלות זיהומיות וביטחון ביולוגי  
ע"ש טיבריו שורץ**

**תוכנית מפגש מס' 4**

**25/10/2009**

**13:00 התכנסות, הרשמה וכיבוד קל**

**13:25 דברי פתיחה**

**פרופ' דניאל כהן**

ראש החוג לאפידמיולוגיה ורפואה מונעת, ביה"ס לבריאות הציבור, אוניברסיטת תל אביב

**מושב ראשון**

**יו"ר – פרופ' שמואל רשפון**

רופא מחוז חיפה

יו"ר הוועדה המיעצת למחלות זיהומיות ולחיסונים,

משרד הבריאות ואוניברסיטת חיפה

**13:30 A/H1N1 Influenza pandemic 2009 ("שפעת החזירים")**

מה היה, מה הווה, (ואולי) מה יהיה

**פרופ' דני אנגלהרד**

מנהל מחלקת ילדים, המרכז הרפואי הדסה והאוניברסיטה העברית

וראש הצוות לטיפול במגיפות (צט"מ), משרד הבריאות

**14:00 הבסיס המדעי לקביעת מתווה החיסונים המוצמדים נגד זיהומים פניאומוקוקלים בישראל**

**פרופ' רון דגן**

מנהל היחידה למחלות זיהומיות בילדים, המרכז הרפואי סורוקה ואוניברסיטת בן-גוריון בנגב

**14:30 ביקורים בחדר מיון ואשפוזים עקב דלקת ריאות בילדים בדרום הארץ**

**ד"ר שלום בן שימול**

חטיבה לרפואת ילדים, המרכז הרפואי סורוקה ואוניברסיטת בן-גוריון בנגב

**15:00 הפסקה**

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**החוג לאפידמיולוגיה ורפואה מונעת**

**בית הספר לבריאות הציבור**

**הפקולטה לרפואה ע"ש סאקלר, אוניברסיטת תל אביב**

קריית האוניברסיטה, רמת אביב

ת.ד. 39040, תל אביב 69978

טל': 03-6408572, פקס: 03-6409868

# פורום מחקר באפידמיולוגיה של מחלות זיהומיות וביטחון ביולוגי ע"ש טיבריו שוורץ

מושב שני

יו"ר – פרופ' דוד גרינברג

היחידה למחלות זיהומיות בילדים, המרכז הרפואי סורוקה  
אוניברסיטת בן-גוריון בנגב  
ויו"ר החברה לפדיאטריה קלינית

15:30 המצאות וגורמי סיכון לנשאות *Streptococcus pneumoniae* בקרב מתגייסים בישראל:

מחקר חתך

ד"ר חגי לוי

ראש מדור אפידמיולוגיה, ענף בריאות הצבא, צה"ל

16:00 Estimate of incidence of infection of *Bordetella pertussis* in Israel: Comparing pre- and early booster vaccination era

Dr. Pamela Rendi-Wagner

Dept of Spec. Prophylaxis & Trop. Med. Center of Physiology & Pathophysiology, Medical University Vienna, and Dept of Epidemiology and Preventive Medicine, Tel Aviv University.

16:30 זיהום מולד ב- CMV בישראל: סיקור טרום לידתי, וממצאי מחקר סיקור בילודים שנערך

לאחרונה

פרופ' דנה וולף

מנהלת, היחידה לוירולוגיה קלינית, מרכז רפואי הדסה והאוניברסיטה העברית

17:00 דברי סיכום

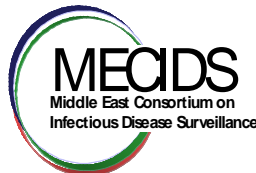
המפגש יתקיים באולם "לולה", הפקולטה לרפואה ע"ש סאקלר

קמפוס אוניברסיטת תל אביב

האירוע בתמיכת :



טבע מדיקל (שיווק) בע"מ



The Diagnostic Specialist

החוג לאפידמיולוגיה ורפואה מונעת

בית הספר לבריאות הציבור

הפקולטה לרפואה ע"ש סאקלר, אוניברסיטת תל אביב

קריית האוניברסיטה, רמת אביב

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