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Session: *Epidemiology and Public Health III*

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Room: Ballroom

Genotypic distribution and prevalence of the HPV infection in Macedonia

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Background: Considering the epitheliotropic properties of HPV due to their phylogeny, each region has its own distribution and prevalence of HPV infections, together with its specific genotypic distribution.

Methods & Materials: In a retrospective analysis that was carried on the data of 7411 patients, several associations were analyzed that show the connection between the presence of HPV and the existence of cervical lesions. The data analysed, as a representative sample of the female population in Macedonia, revealed a precise genotypic distribution and prevalence of the HPV infection among Macedonian women. The genotyping was done from cito-brush samples using PCR-RFLP technique with restriction endonuclease fragmentation of DNA.

Results: The prevalence of HPV infection was established in 35,77% of the patients, highest being in the age group under 30 yrs of age, with 45,07% of the infected being in this age group. The genotypic distribution showed HPV 16 to be the most prevalent (23,39%), after which comes HPV 31 (10,68%) and HPV 53 (10,6%), and then comes HPV 18 (6,19%).

Conclusion: The prevalence of the HPV infection correlates with the world trend, yet the genotypic distribution is specific for Macedonia.

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Identifying and assessing infectious disease risks to the health of the Canadian populationM.J. Garner^{1,*}, L. Pinault¹, F. LaBossiere¹, C. Anderson¹, J. Trumble Waddell²¹ *Public Health Agency of Canada, Ottawa, Canada*² *Public Health Agency of Canada, Winnipeg, Canada*

Background: Risk, the relationship between impact and likelihood, is an integral part of assessing the health of a population. Prioritization activities have been conducted to rank infectious diseases for research and surveillance decisions, however, these consider factors outside of likelihood and impact (e.g. risk perception) which are important to consider for funding priorities, but

do not describe the risk infectious diseases pose the health of a population.

The purpose of this study was to identify and assess the current risk to the health of the Canadian population across a broad spectrum of infectious diseases.

Methods & Materials: Relevant literature was reviewed to compile a list infectious diseases (n = 422). Diseases that can be observed within the Canadian population or could potentially become established within the Canadian population under present conditions (n = 248) were considered current risks. All infectious diseases identified as current risks were assessed using the communicable disease prioritization procedure used by the Robert Koch Institute, modified to assess risks posed to the health of the Canadian population. Nine (weighted) criteria were assessed for each disease: incidence, mortality, trend, case-fatality, communicability, treatability, absenteeism, chronicity of illness, and endemism. Each criterion was assigned a numerical score of 2, 1, 0 then multiplied by the appropriate weight.

Results: 248 infectious diseases were assessed and scored. The total weighted score ranged from 33 (*C difficile*) to 2 (Metagenimiasis) with the median being 14 (*E coli*). As a group, hospital acquired infections had the greatest residual risk (largely due to anti-microbial resistance, and an immunocompromised population). Enteric diseases generally had a low residual risk, most likely due to ongoing efforts by public health and food safety activities to reduce risk. Both SARS/MERS and Influenza A scored 23; however, when stratifying by the contributing factors 83% of SARS/MERS risk was derived from inherent disease characteristics whereas for Influenza A only 30% was from inherent characteristics.

Conclusion: By systematically evaluating the impact and likelihood of infectious diseases, this study attempts to increase standardisation and transparency in assessing risk. The list of ranked infectious diseases established here will inform discussions on future foci for public health action in Canada.

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The management and prevention of rubeola epidemicU. Savasci¹, N.C. Oren², O. Coskun^{3,*}¹ *Ardahan Military Hospital, Ardahan, Turkey*² *Sarikamis Military Hospital, Kars, Turkey*³ *Gulhane Military Medical Academy, Ankara, Turkey*

Background: Epidemic rubeola infections are important medical problems because they are able to affect large population in a little time period. Although an elimination programme has been on during in our country, measles still may be seen due to the increased interactions among the people live in other countries. Military personels are very sensitive to measles due to the life style in military troops. We aimed in this study to review the management of rubeola epidemic and how to prevent from this highly dangerous disorder from head to toe.

Methods & Materials: 3630 military personels were included into the study. All of them were assessed for measles and suspicious

cases were evaluated with physical examination, CBC, AST,ALT, LDH, Rubeola IgM-IgG,Chest X-Ray.

Results: 9 cases were diagnosed as active measles infections according to their physical findings such as maculopopular rashes, conjunctivit, fever, rales with auscultation of lungs; laboratory/radiological findings such as neutropenia, elevated AST, ALT, LDH and reticulonodular infiltrations on Chest X-Ray. All cases were confirmed by serology also. All military personels with under risk of measeles were vaccinated (Priorix® GlaxoSmithKline,United Kingdom)simultaneously. No reaction due to immunization was determined. All of patients with measeles cured after this supportive and preventive management.

Conclusion: In conclusion immunization, screening and early diagnosis are always kept in mind in fighting againts unexpected epidemics such as measles and every military personels should be aware of the findings of measles and the prevention of this serious disease.

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The detection of psaA in serotypes of *S. pneumoniae* isolated from nasopharynx of healthy children

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Background: Recent attention has focused on the role of pneumococcal proteins, including the pneumococcal surface adhesion A, (PsaA), as a virulence factor in the pathogenesis of infections with *Streptococcus Pneumoniae*. Immunization with these proteins may provide long lasting protection against virulent pneumococci.

Objective: To detect the psaA gene in different serotypes of *S. pneumoniae* found in the upper respiratory tract of healthy children and to evaluate the potential usefulness of the psaA PCR assay as a possible diagnostic method for Pneumococcal disease.

Methods & Materials: In this study, nasopharyngeal swabs were taken from healthy children under 10 years old recruited from randomly selected daycare centers and primary schools in Tehran. These swabs were tested for the presence of Pnuemococci by both culture and the psaA PCR assay. To detect the gene we used a PCR-amplified internal fragment of the psaA gene.

Results: Samples were collected from 485 children. *Streptococcus pneumoniae* were isolated from 228, (47%), samples; fifteen different serotypes were identified. PCR detected the psaA gene in 164 specimens, (70%).

Conclusion: Our results confirm that psaA is present and detectable in heterologous serotypes of *Streptococcus pneumoniae*. These results indicate that PsaA can be used for detection of

invasive pneumococcal serotypes in carriers and may be for vaccination development in different areas.

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Malaria control interventions: Outcomes in attendees of health facilities in Oyo State, Nigeria 2012



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Background: Globally, malaria is said responsible for one-fifth of all cause of mortality due to infectious diseases. Africa contributes an estimated 44% of the annual number of new cases, with Nigeria accounting for about 25% of the global burden of this disease.

Oyo state is holoendemic for malaria being the most common reason for hospital visits in all age groups; half of the populations have more than one episode per year and children have average of 2-4 episodes annually. We determined the monthly trend of suspected malaria cases, evaluated malaria case management practices, and access to preventive services.

Methods & Materials: We conducted a retrospective review of malaria case summary data for 330 health facilities across the 33 Local government areas in the state, from January to December 2012. The tertiary and private facilities were excluded. Descriptive analysis was done using Microsoft Excel.

Results: Suspected malaria cases accounted for 372,010 (62%) of clients presenting to public health facilities with 166,650 (45%) under 5 years (U5s) and 205,360 persons (55%) above 5 years (A5s) respectively. Testing with rapid diagnostic kits was performed for 25,372 (8%), and microscopy for 8632 (2.3%) of total fever cases, with only 36,303 (10%) of suspected cases confirmed with a diagnosis of malaria; of this proportion uncomplicated malaria was diagnosed in 10,700 (30%) of U5s, 17,747 (49%) of A5s, with severe malaria diagnosed in 799 (2%) of U5s, 704 (2%) of A5s population and Malaria in pregnancy accounted for 6373 (6%) of these cases. An estimated 122,596 (33%) of presumptively treated and laboratory diagnosed cases were treated with Artemisinin based Combination Therapy. A total 112,356 PW were seen in the review period, only 20% (22,048) received at least two doses of Sulphadoxine-Pyrimethamine. Distribution of Insecticidal Nets was to 6,652 (4%) of U5s and 1,911 (1%) of PW seen during Outpatient visits.

Conclusion: Poor access to preventive services and poor diagnostic practices were observed in the facilities assessed, we

