Morbidity by Influenza A (Novel H1N1) virus infection in relation to age and gender from January 01, 2015 to October 30, 2015 in Baroda, a city in western India

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Background: Aim of this study to identify potential high risk age group and gender predisposition for the Influenza A (Novel H1N1) virus infection.

Methods & Materials: Retrospective analysis of data from urban and rural population of Baroda has been carried out by principal investigator. The statistics were collected over a span of approximately 10 months, from January 01, 2015 to October 30, 2015. Two swabs, Oropharyngeal and nasopharyngeal, were collected by Nylon flocked swab and following WHO recommended standardized protocols. Swabs were transferred to Viral Transport Media (VTM). Triple layer packing was done using Biohazard Zip lock bag and cotton as absorbent and All the samples were transported in cold chain to referral viral laboratory for testing. Further virus detection was done via real time reverse transcriptase polymerize chain reaction machine, the gold standard method.

Results: But of 1,650 patients, 657 patients tested positive for Influenza A (Novel H1N1) virus infection, with the positivity rate of 39.82%. Among them, 326 (49.62%) were males and 331 (50.38%) were females. Majority of cases occurred during the month of February and March. In February, 418 (50.00%) patients tested positive out of 836 patients, with 203 (48.56%) males and 215 (51.44%) females. In March, 146 (30.04%) patients tested positive out of 486 patients, with 74 (50.68%) males and 72 (49.32%) females. Out of 657 patients, 120 (18.26%) patients were from pre-school (0-5 years) age group, highest among the all age groups. Significant number of cases also occur in middle age groups, 64 (09.74%) in 51-55 years, 52 (07.91%) in 36-40 years and 50 (07.61%) in 46-50 years.

Conclusion: Study saws both genders are affected with equal rate with no predisposition to either male or female. Pre-school (0-5 years) age group has high risk of infection and middle-age groups (36-55 years) have moderate risk as compared to other age groups. Results of this study emphasizes the need for further research and evaluation as well as comprehensive surveillance system to know more about Influenza A (Novel H1N1) virus infection in relation to age and gender.

Estimation of the chronic obstructive pulmonary disease from exposure to particulate matter in Ahvaz, Southwest Iran

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Background: Air pollutants produced in environments have many harmful effects on human health. Chronic obstructive pulmonary disease (COPD) is a common worldwide respiratory disease. The aim of this study was to evaluate the relationship between the density of particulate matters and the prevalence of COPD in Ahvaz, southwest of Iran, during 2009-2013.

Methods & Materials: This epidemiological and used-model study was performed in Ahvaz. Data were obtained from Ahvaz Department of Environment (ADE). Sampling was performed hourly during the study period in 4 stations. In this study, 175200 samples of air were taken and collected. Sampling and analysis were performed according to EPA guideline. We utilized the relative risk values and baseline incidence measures by the WHO (Middle East) drawn from Health Effects Association of Particulate Matter. Finally, prevalence of COPD attributed to particulate matter exposure was calculated by Air Q model.

Results: According to our findings, the prevalence of COPD attributed to particulate matters increased during 2009-2013 and followed an increasing trend. Accordingly, the yearly prevalence of COPD during the period 2009-2013 were 1026, 981, 1235, 1602,
and 2625, and the yearly average PM$_{10}$ concentrations during the same period were 277.64, 261, 323.78, 727.65, and 917.12 μg/m$^3$, respectively. The total mean of particle matter concentration was higher than standard. There was a strong correlation between the prevalence of COPD and the concentration of particulate matters in Ahvaz.

**Conclusion:** Our study suggested that increased concentration of particulate matters might be associated with a higher prevalence of COPD.

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**First molecular detection and genotyping of group A rotaviruses by semi-nested RT-PCR from Sewage in Nigeria**

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**Background:** Rotavirus is the leading cause of viral gastroenteritis worldwide; sewage and sewage polluted waters have long been identified as a major source of rotavirus dissemination in the environment. The objective of this study was to detect and identify the circulating G genotypes of rotavirus in sewage from Nigeria using molecular method.

**Methods & Materials:** From June 2014 to January 2015, 190 sewage samples were collected from 5 states in Nigeria, Borno, Sokoto, Abuja, Kano and Lagos. The two phase concentration method using PEG 6000 and dextran was used to concentrate sewage samples following WHO protocols. Molecular detection was done by RT-PCR, semi-nested multiplex PCR was used to genotype the G protein coding region (VP7) and P protein (VP4).

**Results:** Results showed that 14.2% (n=27) of the samples tested positive for rotavirus RNA. Monthly distribution showed that the rainy months of June to September had a lower detection rate of between 3.7% to 7.4% compared to the dry months of October to January 11% to 26%. Genotype distribution showed a higher diversity of G genotypes than P. G1 predominated followed by G8, G9, G4 and lastly G2, only 2 P genotypes were encountered [P4] (60%) and [P8] (20%), G1[P4] was the most prevalent genotype combination, about 22.2% (n=6) of isolates were untypeable by the primers used.

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**Evaluation of risk factors that have the potential for the introduction and spread highly pathogenic avian influenza and Newcastle disease into two states of Nigeria**

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**Background:** The risk of virus introduction and spread into or within farm depends largely on neighbouring farm characteristics, contact structure and biosecurity practices. A qualitative risk analysis was conducted through a cross-sectional study to obtain information on types and frequency on activities guiding the determination of potential AI spread pathways between farms and production regions.

**Methods & Materials:** The study involved a 95% responded structured questionnaires that were complemented by dialogues administered to poultry farmers, traders and experts (Veterinarians and livestock health workers) in two Nigerian States.

**Results:** 92% of farmers were aware of and 90% of them were prepared to report outbreaks of poultry diseases. Farmers believed strongly (90%) that contaminated feed and water caused most poultry disease outbreaks. Of concern is no farmer (0%) believed ND could be transmitted by wild birds. Veterinary personnel and radio and television contributed the most (87%) to HPAI awareness. Gombe state had 3 moderate rate reported (12 scores) sites involving trade in live birds and returning trucks from infected regions.