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marginal decrease in the trend of all-cause pneumonia admission after PCV13 introduction (incidence rate ratio: 0.997, 95% CI: 0.995, 0.998). We also observed a similar decreasing trend in older adults aged 65 years or above but not in the younger age groups. **Conclusions:** After the introduction of childhood PCV13 immunization, there is a significant reduction in pneumonia admission among the overall population in HK. Moderate herd immunity of childhood PCV13 immunization was found in older adults. Future study should investigate the long-term effect of PCV13 immunization under the circumstance of possible serotype replacement upon the vaccine introduction.

**PIN26 ASSESSMENT OF INFLUENCE OF EDUCATION TO PARENTS TOWARDS COMPLETION OF VACCINATION: A RANDOMISED CONTROLLED STUDY**

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**Objectives:** To assess the influence of education to parents towards completion of vaccination as per Expanded Program of Immunization. **Methods:** This study was conducted for a period of 2 years at Pediatric department of JSS Hospital, Mysuru, India. Parents visiting study site with a child of at least 6 weeks of age was the inclusion criteria of the study. Enrolled parents were randomized using simple randomization method into intervention and control group after taking the informed consent. Baseline knowledge, attitude and Practice was assessed for both the groups using a validated questionnaire. Intervention group received a structured education and a leaflet on their first visit whereas the control group received only the leaflet. During second visit, test group received the follow-up education and the control group did not receive any intervention. During third visit, KAP was reassessed for both the groups using a validated questionnaire. **Results:** Complete vaccination in intervention group was 30% as compared to 13% in the control group. **Conclusions:** The personalized education to the parents by an HCP is a very useful strategy to make the complete immunization of children in the community.

**PIN27 PROJECTING THE BURDEN OF MULTIDRUG-RESISTANT ACINETOBACTER BAUMANNII AMONG HOSPITAL-ASSOCIATED INFECTIONS IN CHINA**

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**Objectives:** Projecting epidemiologic trends in antibiotic resistance is important for developing strategies to tackle the global antibiotic resistance problem. *Acinetobacter baumannii* is a leading cause of hospital-associated infections, particularly in China. This analysis aimed to estimate the current burden of multidrug-resistant *A. baumannii* (MDRAB) in China and forecast epidemiologic trends in the emergence of multidrug-resistant, hospital-associated urinary tract infection (UTI). **Method:** MDR UTI rates were estimated using published surveillance data of hospital-associated infections in China. Future resistance rates were simulated based on historic trends accounting for multiple factors, including antibiotic exposure and stewardship. Two broad growth scenarios were projected: log growth (assuming improved infection-control practices) and sigmoidal growth. **Results:** Among UTIs with a reported causative pathogen in China between 2014 and 2018, 60% were caused by gram-negative bacteria, of which 3.9% were *A. baumannii* (Chen et al. J Hosp Infect. 2017;95:105–111). MDRAB rates among A. baumannii UTIs increased from 13% in 2007 to 57% in 2017 (Gao et al. Chin J 2017;130:609–615). Based on the two growth scenarios, MDRAB rates were projected to moderately increase from 2015, with estimated rates of 57–58% in 2015, 62–68% in 2025, 64–71% in 2030, and 67–76% in 2040. **Conclusions:** More than half of A. baumannii UTIs from 2013 are estimated to be multidrug resistant, with resistance projected to increase to 57% in 2015, 62–68% in 2025, 64–71% in 2030, and 67–76% in 2040. A gradual peak in the emergence of MDRAB from 2015 assumes low probability of indefinite resistance growth, containment within hospital settings, and the potential impact of improved stewardship and infection control. The projected growth rates are the urgent need to implement approaches to manage the emergence of resistance and its impact on patients, including preserving the effectiveness of existing antibiotics and the development of new options.

**PIN28 PREDICTION OF THE PEAK DATES OF THE NUMBERS OF COVID-19 PANDEMIC PATIENTS**

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**Objectives:** Outbreaking of COVID19 is now attracting heated interests worldwide. This study proposes the prediction method for the ‘signal’ which foresees the date of the outbreak. Based on the Chinese evidence, the study predicts the peak dates of the numbers of cases and deaths. **Methods:** The study used the data until 3rd April sourced from the European Centre for Disease Prevention and Control (ECDC). First of all, this study predicts the signal date. The signal date was calculated as follows. Defined Xi as the cases of a particular day, Xi-1: the previous day, Xi-2: two days before. Given Xi, Xi-1, Xi-2 are more than 100, the ratio is defined as (Xi / Xi-1) / Xi-2). When the ratio has remained less than 3.0 for three consecutive days, the final date is defined as the ‘signal’ date. The peak occurs within around 14 days from the signal date. **Results:** The peak of the disease at several countries including hardest-hit ones were calculated. In the case of Italy, the signal and the peak dates were calculated as March 8th and March 22nd, respectively for the ‘signal’ date. **Conclusions:** The numbers of cases and deaths vary on the countries. This difference may be due to national strategies. Several miracles were found on this pandemic (Asian miracles: Taiwan, Korea, Japan). Germany and Korea have a small number of deaths in spite of a large number of cases, and Taiwan has succeeded in taking measures at the border. Predicting method for the peak date and the future numbers could help introduce the appropriate measures.

**PIN29 EVALUATION OF HEALTHCARE WORKERS’ KNOWLEDGE, ATTITUDE AND PRACTICES RELATED TO COVID-19: A MULTICENTER CROSS-SECTIONAL STUDY FROM PAKISTAN**

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**Objectives:** To evaluate Pakistani healthcare workers’ knowledge, attitude and preventive practices related to COVID-19. **Methods:** A cross-sectional study was conducted among the healthcare workers (medical doctors, nurses, pharmacists, phlebotomists, hospitals of Punjab province of Pakistan. A self-administered questionnaire was used to evaluate COVID-19 related knowledge, attitude and practices. **Results:** A total of 458 healthcare workers were approached and 429 were recruited (response rate = 93%). The mean age of the participants was 29.8 ± 5.7 years, with majority of medical doctors (42%) followed by nurses (38%) and pharmacists (14.9%). All of the participants reported that they were aware of COVID-19 outbreak and social media was the major source (65%) of this information. Mean knowledge score was 12 ± 2.1, with 75% of participants having satisfactory knowledge of COVID-19. Doctors were found have significantly better knowledge scores than other healthcare workers (p < 0.001). Mean attitude score was 8.0 ± 1.2, with a wide majority of healthcare workers (86.5%) having positive attitudes. Regarding COVID-19 related preventive practices, around 64% reported of always covering nose and mouth with a tissue during sneezing or coughing and nearly 65% disposed of the dirty tissue in trash bins. Only 40% of the participants reported that ‘if they do not have tissue, they cough or sneeze into upper sleeve’. Only 56% reported of always washing their hands, with soap and water, quickly after coughing or sneezing or touching contaminated objects like a tissue. Overall, mean practice score was 23.3 ± 3.6, with 73.4% of healthcare professionals having satisfactory preventive practices. **Conclusions:** Although overall COVID-19 related knowledge, attitude and practices of Pakistani healthcare workers are satisfactory, there are some misconceptions and malpractices that must be addressed.

**PIN30 ELEMENTS TO CONSIDER FOR A COMPREHENSIVE ASSESSMENT OF THE PUBLIC HEALTH IMPACT OF VACCINATION**

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**Objectives:** Vaccines differ from therapeutic drugs as they provide broad and distinctive benefits associated with prevention at the population level, beyond the individual. Public health impact (PHI) of vaccination is a key measure of these.