

**Type: Poster Presentation**

Final Abstract Number: 61.012

Session: Infection Control, Nosocomial Infections and Critical Care

Date: Saturday, April 5, 2014

Time: 12:45–14:15

Room: Ballroom

**Prevention and control strategies implemented after a hepatitis B virus outbreak in a paediatric haematology and oncology unit in South Africa**

A. Buchner, D. Reynders, F. Omar, J. Vermeulen, S. Mayaphi, A. Haeri Mazanderani, T. Avenant, N. Du Plessis\*

University of Pretoria, Pretoria, South Africa

**Background:** Hepatitis B remains an important public health concern in South Africa. Despite the introduction of hepatitis B vaccination in 1995, the prevalence of chronic HBsAg positivity remains unacceptably high. Horizontal transmission of hepatitis B plays an important role in developing countries, and occurs mainly through body fluids like saliva. A recent nosocomial hepatitis B virus (HBV) outbreak involving 38 patients occurred in the paediatric haematology and oncology unit of a large tertiary hospital in South Africa from March 2012. Possible breaches in standard infection control precautions, contaminated multiple-dose vials and transmission through body fluids were implicated. We describe the subsequent infection prevention and control strategies that were put in place.

**Methods & Materials:** Following the outbreak, a series of strategies to minimise nosocomial transmission of HBV were implemented. Universal infection control precautions were again emphasized in the daily practice of all personnel, including strict hand washing and use of gloves. Other policies included eliminating the use of multi-dose vials, cleaning and thoroughly disinfecting reusable equipment, and preventing the sharing of personal utensils (toothbrushes, eating utensils). Testing for hepatitis B infection and immunity on first admission to the unit and vaccinating patients with low levels of anti-HBs antibodies were put into practice. A full vaccination schedule is initiated in patients with anti-HBs titres <10 mIU/ml, and a booster HBV vaccine given to those patients with anti-HBs titres <100 mIU/ml. All patients attending the unit are now routinely monitored every 3 months for declining levels of anti-HBs antibodies, and vaccinated if titres fall below 100 mIU/ml.

**Results:** The preventive measures that were introduced following the outbreak reduced the incidence of HBV infection significantly. Only one new case of HBV infection, suspected to be unrelated to the outbreak, has occurred in a 10 month period following implementation of these measures.

**Conclusion:** This outbreak highlights the importance of adequate infection prevention and control strategies in the prevention of nosocomial transmission of hepatitis B virus infection. Paediatric haematology and oncology units should implement policies of active on-going surveillance for HBV infections and formulate clear guidelines for prevention and control thereof.

<http://dx.doi.org/10.1016/j.ijid.2014.03.1261>**Type: Poster Presentation**

Final Abstract Number: 61.013

Session: Infection Control, Nosocomial Infections and Critical Care

Date: Saturday, April 5, 2014

Time: 12:45–14:15

Room: Ballroom

**Infection control survey in the hospitals to examine the role of masks and respirators for the prevention of respiratory infections in healthcare workers (HCWs)**A.A. Chughtai<sup>1,\*</sup>, R. MacIntyre<sup>2</sup>, Y. Peng<sup>3</sup>, Q. Wang<sup>4</sup>, M.O. Ashraf<sup>5</sup>, T.C. Dung<sup>6</sup>, H. Seale<sup>2</sup><sup>1</sup> University of New South Wales Australia, Sydney, Australia<sup>2</sup> University of New South Wales, Sydney, Australia<sup>3</sup> China, Beijing, China<sup>4</sup> CDC China, Beijing, China<sup>5</sup> National TB Control Program, Islamabad, Pakistan<sup>6</sup> National Institute of Hygiene and Epidemiology, Hanoi, Viet Nam

**Background:** The aims of this survey were to examine the type of facemasks currently being used by HCWs and compliance with national infection control policies.

**Methods & Materials:** An infection control survey was conducted in secondary/tertiary level hospitals of Punjab, Pakistan (55 hospitals) and Hanoi, Vietnam (15 hospitals). Hospitals were asked to complete the survey and to send samples of each type of facemask used. Three infectious diseases were selected for this study; influenza, SARS and TB.

**Results:** Most doctors, nurses and paramedics use paper and surgical masks in Vietnam; however surgical masks are the most common type used in Pakistan. In Vietnam, various types of masks are used in low risk situations for the three diseases and surgical masks and respirators are mostly used in high risk situations. In contrast to this, surgical masks are used only in high risk situations in Pakistan. The systems for certification of respirators and trainings exist in Vietnam. However, fit testing and medical evaluation is not being performed in either country.

In Vietnam, paper masks are mostly used for 1–4 hours, surgical masks/respirators are used for 6–8 hours and cloth masks are used for 1–2 days. On the other hand, surgical masks are commonly used for 4 to 6 hours in Pakistan. Around half of the Vietnamese hospitals studied, faced shortage of facemasks last year, however very few hospitals in Pakistan reported shortages. In Vietnam, respirators were used by staff members in direct contact with patients during SARS outbreak and facemasks were used for extended period during the H5N1 and H1N1 outbreaks. In Pakistan, surgical masks were used by HCWs in these hospitals during these outbreaks.

Samples of cloth and surgical masks were mostly collected from the hospitals and very few hospitals were using respirators. These masks are of various size, shape (flatfold, cup, duckbill), layers (1–3 layers) and design (string, ear loop).

**Conclusion:** Various types of masks are being used in the selected hospitals. These masks not only differ in the type, but also vary in the size, shape and numbers of layers which may be associated with filtration capacity and facemasks efficacy.

<http://dx.doi.org/10.1016/j.ijid.2014.03.1262>