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PREVALENCE AND ECONOMIC IMPACT OF ROTAVIRUS HOSPITALIZATIONS AMONG LIBYAN CHILDREN: A PRE-VACCINE IMPACT EVALUATION

<u>Maznah Dahlui</u>ª

°University of Malaya, Malaysia

The burden of rotavirus hospitalization and its associated economic burden among children aged <5 years was determined just after the introduction of rotavirus vaccine in 2013, in Libya. The study aimed to provide the baseline data for future evaluations of vaccine economic impact. A prospective survey of rotavirus infection had been conducted at three public hospitals to estimate the annual incidence of rotavirus hospitalizations in the country since the usual disease surveillance had been distrupted by the civil war. Cost on treatment for rotavirus infection was calculted from the patient's and providers perspectives. Of the 410 children aged <5 years who were hospitalized for diarrhea, 58% were confirmed rotavirus infection. The incidence of rotavirus among children aged <5 years was estimated between 418 to 557 per 100,000. 86% of the infection were among children <2 years old and the infection was at its peak during the winter months. The total cost of treatment for each rotavirus patient was USD 679 (range: USD200–5,423). By extrapolation, we estimated 3,922 rotavirus hospitalizations occur each year among Libyan children aged <5 years, incurring a total cost of USD 2,663,038 (range: 2,655,567-2,669,827). Rotavirus had caused substantial morbidity and economic burden to Libya, highlighting the potential value of rotavirus vaccination for Libyan children.

maznahd@ummc.edu.my

MULTIPLE EBOLA VIRUS TRANSMISSION EVENTS: EVIDENCE FROM AFRICAN COUNTRIES

Nadhem Selmi^a ^aUniversity of Sfax, Tunisia

In order to analyze the effects of the numbers of deaths caused by the Ebola virus volatility changes on the stability of the West African countries, we study the outbreak Ebola virus which took place in March 3, 2014 and ends in February 02, 2015. To do this, we have based our analytical approach on the analysis of the GARCH models. We used the EGARCH process to detect the asymmetric effect of volatility. To examine the international transmission of this volatility we employed the multivariate GARCH-BEKK model. The results we have found show that there is consistent evidence of volatility changes in epidemic Ebola virus period; and shocks have permanent and asymmetric effects on volatility of the west African countries. However, we can also conclude that the correlations between numbers of deaths have significantly increased during the crisis period and this confirms that the Guinean Ebola virus is transmitted between different countries which prove the contagion phenomenon. The results we have found shows that over the full sample period shocks have permanent and asymmetric effects on volatility.

nadhem.selmi@yahoo.fr