Establishment of EWARN system for the Syrian crisis: Experiences and challenges

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Background: An estimated 5 million Syrian people have either been internally displaced or taken refuge in Jordan, Iraq, Lebanon and Egypt owing to the ongoing humanitarian crisis in Syria. Poor living conditions, depleted access to safe water and sanitation services and disruption of preventive health services have put these Syrian refugees at risk from epidemic-prone diseases. Continuous influx of Syrian refugees into these countries also threatened the introduction and re-introduction of many diseases in these countries that were not known to exist previously. Establishment of early warning and alert response network (EWARN) system for timely detection and response to disease outbreaks was a critical part of WHO's public health response to Syrian crisis

Methods & Materials: An operational framework was developed by WHO to establish the EWARN system in the countries affected by Syrian crisis taking into consideration the disease surveillance structure, available human and technical resources and operational effectiveness to determine the most appropriate EWARN design for each settings. Standard tools were adapted, potential partners to support the operation of EWARN were identified and list of disease conditions with epidemic potentials were finalized. Alert and epidemic thresholds were set for each disease conditions taking into consideration the local endemic patterns and seasonality of the selected disease conditions.

Results: The EWARN was rapidly rolled out in Iraq, Jordan, Lebanon and Syria between June 2012 to December 2013 with immediate notifications and weekly reporting system. The EWARN has, so far, detected measles outbreak amongst the Syrian refugees in Lebanon, Jordan and Iraq, polio outbreak in Syria, acute viral hepatitis outbreak in northern Iraq, Leishmaniais in Lebanon and Brucellosis in Syria. Appropriate control measures, an essential component of EWARN, were also rapidly implemented following detection of these outbreaks.

Conclusion: The implementation of EWARN in the countries affected by the Syrian crisis has demonstrated its value and usefulness for timely detection and response to outbreaks in crisis situations. However, sustaining the progress and maintaining such early warning component within the routine disease surveillance system will remain a challenge owing to the complexity of health systems and variability of surveillance and response capacities in the affected countries.

Identification and antifungal susceptibility pattern of various clinical yeast isolates from a clinical microbiology laboratory in North India

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Background: Yeast infections other than those caused by Candida albicans have been increasingly reported worldwide. The aim was to study the distribution of yeast isolates from various clinical specimens, antifungal susceptibility pattern and usefulness of chromogenic medium in identification of “multi-species” yeast infections.

Methods & Materials: Yeast isolates were identified by growth on CHROMagar Candida medium (Difco, Becton Dickinson, Baltimore, MD, USA), morphology on corn meal agar, sugar assimilation test as well as by the automated system VITEK2 (bioMérieux, Marcy l’Etoile, France). Antifungal susceptibility testing was done by disk diffusion method as per Clinical Laboratory Standards Institute protocols.

Results: In a six-month period, a total of 204 yeast non-repeat isolates were recovered from 182 clinical specimens, viz. blood (n = 42), clean-voided urine (n = 48), Respiratory samples including tracheal aspirates and bronchoalveolar lavage (n = 82), pus(n = 4), sterile body fluids (n = 2), high vaginal swab(n = 4) from different clinical units of Sarvodaya Multi speciality Hospital & Research Centre. Among these 204 yeast isolates, 62 were identified as Candida albicans, 136 were non albicans candida spp. and only 6 were identified as Trichosporon spp. The chromogenic medium detected the presence of multiple yeast species in clinical specimens of clean voided urine, tracheal aspirate and bronchoalveolar lavage (n = 11). Out of 136 non albicans candida isolates, maximum were C.tropicalis (n = 64), followed by C.glabrata(n = 30), C.parapsilosis(n = 22), C.krusei (n = 10), C.dublinensis(n = 4), C.gullermontii (n = 4) and C.kefyr(n = 2), 51.6% and 19.4% isolates of candida albicans showed antifungal resistance for fluconazole(25mcg) and voriconazole(1mcg), respectively. Non-albicans candida isolates revealed higher resistance for fluconazole (76.46%) and voriconazole (23.6%). All 6 isolates of Trichosporon spp. were found to be resistant against fluconazole, but susceptible to voriconazole.

Conclusion: There is a significant rise in infections caused by Non-albicans Candida species in this multi specialty hospital as is noticed in other centres in India and worldwide. Chromogenic medium facilitates rapid presumptive identification of yeast isolate thereby prompting appropriate antifungal therapy which is very much needed for better patient outcome due to the increasing trend of azole resistance observed among these isolates.