Consumption of raw milk is the main cause of brucellosis in the National Guard Population at Riyadh: time to correct the misconception

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Background Human brucellosis is one of the most common communicable diseases in Saudi Arabia. It affects a large number of the population and causes high morbidity, mortality, and healthcare cost. People usually get the disease after exposure to infected animals or animal products contaminated with the bacteria. A significant steady increase in the number of brucellosis cases reported to the National Guard Hospital in Riyadh has been noticed during the past 5 years. The number of cases increased from 301 patients in 2013 to 449 patients in 2017.

Methods All exposed HCWs working in King Abdullah Bin Abdulaziz Specialized Children’s Hospital exposed to measles, rubella, mumps, and varicella during 2017 and 2018 were identified through active investigation and passive reporting. A multi-partner intervention was done during December 2017 to reduce the risk and outcome of exposure. Immune status of exposed HCWs as previously documented in the electronic records was evaluated. Those who were not sufficiently immune were given the relevant vaccine (MMR or varicella). Group and individual education was done to increase the awareness of HCWs. Engagement of departmental heads and nurse managers was pursued to encourage compliance. The outcomes of post-exposure management were compared before (2017) and after (2018) starting the intervention.

Results A total of 213 HCWs were exposed to the targeted infectious diseases (97 in 2017 and 116 in 2018). Of 213 HCWs, 41.3% were exposed to varicella, 41.3% to mumps, 8.9% to measles, and 8.5% to rubella. Compliance with post-exposure evaluation improved from 74.5% in 2017 to 95.0% in 2018. Although more HCWs were exposed to one of the above diseases in 2018 compared with 2017, the immune status of HCWs significantly increased from 69.4% in 2017 to 91.7% in 2018 (p<0.001). Cleared HCWs increased from 68.2% in 2017 to 90.1% in 2018 (p<0.001). Those who were granted sick leave decreased from 2.3% in 2017 to 0.7% in 2018 (p=0.573).

Conclusion A post-exposure intervention including immunization and awareness was successful at improving immunity and return to work rates, and reducing the need for sick leave. This intervention needs to be continuously implemented, especially in high-risk locations such as emergency departments. This can probably increase the safety of the work environment and reduce related absenteeism.