need to automate EWSS before implementing it at a large scale to decrease workload, record duplication, and score calculation errors. More efforts need to be carried out in staff training, motivation, and support as they are key aspects towards success.

59 REDUCING IV INFILTRATION AND POTENTIAL HARM IN THE PEDIATRIC EMERGENCY DEPARTMENT – KASCH

Milfi Al-Onazi, Omar Burhish, Rahayu Abd Rashid, Faith Vabaza, Sherfa Sakiral, Mari Leizl Villanueva. *Emergency Care Center, King Abdullah Specialized Children's Hospital, Riyadh*

10.1136/bmjoq-2019-PSF.59

Background There was a significant increase in intravenous (IV) infiltration in the month of March 2016 in the Pediatric Emergency Department - KASCH. The Acute Care team noted an increase in IV-related incidence and there were 30 generated safety reporting system (SRS) reports from January to March 2016. This prompted the unit leaders to create a taskforce in order to review the causes and the factors leading to incidence and causing patient harm.
Methods Using the PDSA (plan-do-study-act) quality model, the quality improvement team collected data generated through the SRS on IV infiltration/extravasation. The reports were analyzed as to the causes and harm of the incident. Using a cause and effect diagram, the team identified the root causes as non-adherence to the insertion and sterility technique, staff competency on IV insertion and monitoring, type of dressing used, lighting, and lack of guidelines to support the practice. In order to draw a reliable conclusion, several PDSA cycles were tested and implemented: (1) data collection and audit tool design; (2) staff education and standardized documentation; (3) formulation of the escalation process and guidelines; and (4) continuous monitoring and auditing of IV infiltration/extravasation and regular reporting to the daily key performance indicator (KPI).
Results For the initial throughput of the project, the IV Watchers on the Move Team noted a marked decrease in infiltration in August 2018 as evidenced by the nurses' compliance in IV infiltration prevention strategies - i.e., (1) hourly IV site checks, (2) mandatory use of smart pumps, and (3) timely and accurate documentation of IV assessment.
Conclusion The IV Watchers on the Move QI Project was able to design a mechanism to reduce the potential harm caused by infiltration. Part of the intervention was the hourly assessment and early recognition of impending infiltration. Nurses were instructed to be cautious when administering highly concentrated medications. With all of the efforts and initiative shown throughout, the pediatric patients benefited from the successful interventions that finally led to the safe delivery of nursing care.

60 EFFECTIVENESS OF PROCEDURE EXPLANATION IN REDUCING ANXIETY FOR PATIENTS UNDERGOING MAGNETIC RESONANCE IMAGING

Ali Aldhebaib, Oinam Gokulchandra Singh, Jayachandran Vetrayan, Meshal Al-Aqeel, Abdulmajeed Modhi Alotaibi, Fahad Namshan Aldosari, Abdulhadi Alqhutani, Homed Jaber M Alghamde. *Radiology/College of Applied Medical Sciences, King Saud Bin Abdulaziz University for Health Sciences*

10.1136/bmjoq-2019-PSF.60

Background Magnetic resonance imaging (MRI) is potentially considered as the greatest invention in the world. In addition, all the people in the medical field have been surprised by the capability of MRI in the past 25 years. There has been a massive increase in the use of MRI in the clinical field. More than 80 million MRI procedures occur every year around the globe. Patients who are undergoing MRI examinations infrequently experience anxiety as a consequence of the procedure or the environment. Reducing patient anxiety is considered as one of the most common concerns affecting the outcome of the MRI scan. The purpose of this study was to investigate the effectiveness of procedure explanation on controlling anxiety levels in adolescent patients undergoing MRI.
Methods The Institutional Review Board (IRB) ethics committee approved this cross-sectional study. Convenient sampling techniques were used to select 37 adolescent patients (19 females and 18 male) who attended the MRI appointment unit at the Medical Imaging Department of King Abdulaziz Medical City, Riyadh, Saudi Arabia. Three tools were used to collect data: the sociodemographic data sheet, patient assessment knowledge sheet, and the State-Trait Anxiety Inventory (STAI) questionnaire. STAI is a self-report test designed to measure patient anxiety level; 40 questions are divided into two subcategories; 20 state (defined as fear, nervousness, discomfort, etc, and how the person feels right now), and 20 traits (defined as stress, worry, discomfort, etc, that the person experiences on a daily basis).
Results The state anxiety level showed a statistically significant difference in patients' knowledge between the pre-test and post-test with or without instruction. For the group with instruction, their anxiety level significantly reduced. The trait anxiety level showed no significant difference between pre-test and post-test with or without instruction.
Conclusion Because of lack of awareness about the procedural instructions for the patient before undergoing MRI, it may affect the procedure prognosis and outcome. Our suggestion for the future is to increase awareness about MRI and to improve communication skills of MRI staff to educate the patient in a good way to reduce patient anxiety.

61 SUCCESSFUL IMPROVEMENT IN POST-EXPOSURE OUTCOMES AMONG HEALTHCARE WORKERS EXPOSED TO VACCINE-PREVENTABLE DISEASES IN A HOSPITAL SETTING

Abubaker Omer Fadlilmula, Dina Afurong, Diana Alagano, Aiman El-Saed, Majid Alshamrani, Hanan Balkhy. *Infection Prevention and Control, National Guard Health Affairs – Riyadh*

10.1136/bmjoq-2019-PSF.61

Background Healthcare workers (HCWs) working in hospitals are at higher risk of exposure to patients with different infectious agents, particularly measles, mumps, rubella, and varicella. Identifying the HCWs who are at risk and initiating post-exposure management is critical to reduce the risk of further spread to other patients and HCWs. This is especially important in high- risk hospital areas such as emergency departments. The objective of the current study was to assess the impact of a multi- partner intervention on the outcomes of post-exposure management.

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.

62 CONSUMPTION OF RAW MILK IS THE MAIN CAUSE OF BRUCELLOSIS IN THE NATIONAL GUARD POPULATION AT RIYADH: TIME TO CORRECT THE MISCONCEPTION

Hedaih Alotaibi, Aiman El-Saed Ramadan, Abrar Turkistani. *Infection Prevention and Control Department, King Abdulaziz Medical City*

10.1136/bmjoq-2019-PSF.62

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 Serology and microbiology results of new brucellosis diagnoses are reported weekly to the public health section of the Infection and Control Department, National Guard Hospital, Riyadh. In response to the increasing number of cases of brucellosis, patients that were reported in 2017 were contacted by phone to assess the method of transmission and to refer family members with suspected exposure to the infectious disease clinic.
Results A total of 449 patients with newly diagnosed brucellosis have been contacted. Approximately two-thirds of the patients were male (67.7%) and the average age was 41.3 ±21.7 years. The highest number of reported patients was observed in October (n=57). Almost all patients had Saudi nationality (99.8%). For the exposure history, the most frequent exposure was drinking raw milk (n=390, 86.9%). Approximately 10.9% of the patients had a history of animal exposure during the past 6 months. Approximately 2.2% of the patients denied all possible exposures.
Conclusion Drinking raw milk is still the most frequent exposure among patients with brucellosis reported to the National Guard Hospital in 2017. There is an urgent need for a more effective health education campaign that puts into consideration the cultural part of the problem. Multiple partners should be engaged including public health, Ministry of Agriculture, media, and community and religious leaders.

63 PREVALENCE AND RISK FACTORS OF GESTATIONAL DIABETES MELLITUS AMONG PREGNANT PATIENTS ATTENDING NATIONAL GUARD PRIMARY HEALTHCARE CENTERS IN JEDDAH CITY

Mutaz Fouad Nabrawi, Razaz Mohammed Wali, Mutaz Fouad Nabrawi, Saleem Abdullah Alsaedi, Abdullah Abdulaziz Altalhi, Abdulrahman Abdullah Aldainy. *College of Medicine, King Saud bin Abdulaziz University for Health Sciences*

10.1136/bmjoq-2019-PSF.63

Background Gestational diabetes mellitus (GDM) is defined as glucose intolerance with onset or first recognition during pregnancy, and is usually screened for at 24–28 weeks of gestation. Risk factors that have been identified include persistent glucosuria, history of macrosomic fetus, obesity, age older than 25 years, congenital malformations, and strong family history of type 2 diabetes, which is a common illness in our country. In our study, we estimated GDM prevalence and evaluated its risk factors among female patients attending National Guard Primary Healthcare Centers in Jeddah city in 2017.
Methods This was an observational cross-sectional study. Our sample size was calculated to be 347. We included all pregnant females, aged 15–45 years, who attended National Guard Primary Healthcare Centers in Jeddah, and had been following up there during the study period. We collected data from antenatal visit notes, and labor and delivery sheets using the electronic file system BestCare. Screening for GDM at 24–28 gestational weeks was done using the American Diabetes Association (ADA) two-step approach, starting with 1 hour 50 g glucose challenge test, followed by 3-hour 100 g glucose tolerance test. We used SPSS 24.0 to analyze data.
Results The prevalence of GDM among our population was calculated to be 19.6%. Glucose challenge test was abnormal in 36.6% (n=127) of the sample, and 6.9% (n=24) had diagnostic value. Glucose tolerance test was abnormal in 18.7% (n=65) of the sample, and 15% (n=52) had diagnostic value. Several factors were significantly associated with GDM including age ($p<0.001$), height ($p=0.028$), and body-mass index (BMI; $p=0.045$).
Conclusion Prevalence of GDM is considered high among our population. Dietary habits and high BMI play an important role in the increasing amount of GDM cases. It is important to prevent GDM to minimize risks for both the mother and fetus.