

**P2649 Evaluation of hand hygiene compliance and infection epidemiology in a neonatal intensive care unit**

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**Background:** Hand hygiene is the single most important factor in minimising hospital acquired infections and the compliance should be assessed.

**Materials/methods:** In the 13 beds availability NICU where 22 nurses, 11 doctors and 5 health personnel serve, compliance was observed in two unannounced phases in March and August 2018 within the scope of 5 indications determined by World Health Organization.

Hand samples were taken by glove juice method as indicated by American Society for Testing and Materials Standards E1115-11. A sterile solution was added to hands of HCW worn gloves, and after 30 seconds massage samples were inoculated quantitatively in culture plates and colonies were identified by MALDI-TOF MS.

Semmelweis System Hand in Scan (HIS) (Sysmex) was introduced in the unit for training of hand hygiene. This digital system tests the application efficiency by UV scanning after using alcohol based disinfectant containing fluorescent.

During the study period, patients were followed microbiologically, any clinical isolates were stored for further typing. Epidemiological relation between microorganisms isolated from patients and hand samples was investigated with arbitrary primed (AP) PCR.

**Results:** In March, overall compliance was 51% for 739 contacts. Even after repeated training sessions, we regretfully determined compliance as 49% in August for 320 contacts. Compliance in different groups and occasions was shown in Table. Hand hygiene efficacy reached to 72% during guided screening by HIS. Potential pathogens were isolated in 5.2% of 144 hand samples, however any similarity could not be demonstrated among clinical and hand isolates of *Klebsiella* and *Pseudomonas* strains. Although we detected small genotyping clusters of *Acinetobacter* strains from clinical materials, we could not show any relation with the hand isolates.

**Conclusions:** Hand hygiene compliance did not reach the desired level in NICU despite all the efforts. We believe that observations should be done at regular intervals; current technology should be utilised in trainings, hand samples should be taken to detect the source of outbreak, if there is any. Although we were unable to increase the compliance, we continue our training activities without breaking our hopes.

Table. Percentages of compliance among health care personnel

	March 2018			August 2018		
	Doctors	Nurses	Health personnel	Doctors	Nurses	Health personnel
Prior to patient contact	44.5%	54%	50%	69%	55%	68%
Prior to clean or aseptic procedures	50%	50%	No contact	100%	49%	No Contact
After contact with body fluids	0	63%	No contact	50%	47%	No Contact
After patient contact	62.5%	63%	No contact	60%	40%	39%
After contact with patient surroundings	38.6%	41%	50%	40%	49%	60%
<b>Overall</b>	<b>42%</b>	<b>52%</b>	<b>50%</b>	<b>60%</b>	<b>49%</b>	<b>42%</b>

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