Impact of an educational programme in compliance with recommendations for venous lines care in internal medicine departments in Spain

Maria Guembe*1, Maria Jesus Perez-Granda2, José Antonio Capdevila3, José Barberán4, Blanca Pinilla5, Pablo Martin-Rabadan6, Emilio Bouza Santiago1

1Hospital General Universitario Gregorio Marañón, Instituto de Investigación Sanitaria Gregorio Marañón; Clinical Microbiology and Infectious Diseases

2Hospital Gregorio Marañón; Microbiology and Infectious Diseases

3Hospital de Mataró

4Hospital de Montepríncipe

5Hospital General Gregorio Marañón

6Hospital General Universitario Gregorio Maranón; Facultad de Medicina, Universidad Complutense de Madrid

Background: A high proportion of venous lines (VL) are placed in non-ICU patients, particularly in Internal Medicine Departments (IMDs). A previous study of our group demonstrated that there were clear opportunities for improvement regarding catheter use and care in Spanish IMDs. Therefore, our objective was to assess compliance with VL care after an educational program aimed at nurses and clinicians caring for patients admitted to Spanish IMDs.

Material/methods: This was a multi-center prospective observational point prevalence study performed in 14 Spanish IMD in 2013 and 2015. We included adult patients (>18 years) admitted to IMDs. A specialized local nurse visited all hospitalized patients, performed a bedside inspection, and reviewed the nursing records for patients with a VL before and after a 1-year training program. Demographic and clinical data were obtained from local coordinators. The educational program included distribution of pocket leaflets and posters with recommendations on VL care. Answers from
an interview with Head Nurses (HNs) of the IMDs regarding 14 commonly used practices on daily management of VL were also compared.

**Results:** Most relevant data recorded for the first and second prevalence studies were as follows: patients visited, 638 vs. 693; patients with ≥ 1 VL implanted, 83.1% vs. 86.3%; total number of VL, 532 vs. 667; catheters considered unnecessary, 12.8% vs. 15.0% (p=0.28); catheters with local signs of infection, 24.9% vs. 3.6% (p=0.30); daily record of the need for catheter use increased from 43.8% to 71.8% (p<0.001). Also, daily monitoring of insertion site remained very high, 94.4% vs. 92.2% (p=0.16); registration of insertion day was performed in 86.3% vs. 85.5% (p=0.73); and no combination of closed connectors with open caps increased from 74.8% to 90.3% (p<0.001). A questionnaire based on HNs’ knowledge of common recommendations of VL care was compared between the first and the second studies in 8 IMDs. Overall, out of the 14 questions performed, improvement was detected in 4 (28.6%).

**Conclusions:** A simple and easy to carry program of intervention of VL care in Spanish IMDs was associated with improvement in quality of care and increased HNs’ knowledge.