cohortes: ambos grupos A no muestran diferencias significativas en puntajes (p = 0.64). Al comparar grupos B hay diferencia significativa a favor de cohorte TFS (p = 0.0002).

Discusión: Este trabajo comunica que ambos MATP son útiles para adquirir competencia de MVA. El MATP TFS logró mejores resultados que MATP TFM, siendo una posible razón el tener el mismo número de talleres en menos semanas. Además, ambos grupos A (solo marco teórico) logran puntajes significativamente menores versus evaluación posparticipación en talleres (Grupos B). Esto muestra que el marco teórico por si solo es inefectivo para adquirir competencia de MVA en SVAP, siendo necesario utilizar MATP con TFS para lograr los mejores resultados en el MVA. Como proyección deberemos realizar seguimiento a largo plazo de ambas cohortes para determinar cuál es la frecuencia de talleres que mantiene las habilidades adquiridas.

http://dx.doi.org/10.1016/j.riem.2017.01.130

Effect of educational environment of ecuadorian residency training programs in professional burnout syndrome presence in postgraduate residents

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Background: Educational Environment (EE) of a Residency Training Program (RTP) can affect Professional Burnout Syndrome (BO) presence in Postgraduate Residents (PR). ''Postgraduate Hospital Educational Environment Measure'' (PHEEM) looks for quality on Graduate Medical Education, measuring EE of RTP. Ecuadorian Government regulates quality of RTP, not considering directly EE of RTP. An important number of PR are developing a RTP in academic hospitals of Guayaquil, the biggest city of Ecuador. They are exposed to BO. It is useful to evaluate EE of RTP in Guayaquil, but Spanish translation of PHEEM (PHEEM-Spa) has some terminology out of Ecuadorian context.

Aim: To determine the effect of low EE in BO presence in PR of Guayaquil, through a local adaptation of PHEEM-Spa.

Methods: After a literature review, PHEEM-Spa was adapted to a local context (PHEEM-Ecu). Through several interviews with representatives of the three Graduate Medical Schools of Guayaquil, we established the approximate PR number with at least 6 months in an RTP. From Dec-2015 to Nov-2016, PHEEM-Ecu and Maslach Burnout Inventory (MBI) were executed in PR of Guayaquil, through snowball sampling. PHEEM-Ecu reliability was determined with Cronbach' alpha, and the relationship between EE and BO, with Odds Ratio (OR) and Lineal Regression Analysis (LRA). Low EE was defined as: total environment under 80 points, and total environment under median of our study population. BO presence was also defined in two ways: presence of emotional exhaustion, depersonalization and lack of personal accomplishment, and only presence of two of those three aspects.

Results: We estimated 739 PR in 37 RTP, from 11 academic hospitals of Guayaquil. 291/739 (39.4%) answered voluntarily and fully both surveys, 23/291 (7.9%) online. Mean age was 32.08 ± 4.1 years old, 126 (41.9%) were female, 210 (72.2%) from Hospital RTP, 81 (27.8%) from Family Medicine RTP. There was a significant statistical difference only between RTP type and low EE or BO presence. According to prior definitions, a low EE in Hospital and Family Medicine RTP is presented in 27.1–57.1% and 17.3–22.3%, while BO presence, in 8.6–29.5% and 11.1–50.6%, respectively. PHEEM-Ecu got Cronbach' alpha = 0.941. According to prior definitions, effect of low EE in BO presence was: OR 4.642 (2.056–10.483 95% CI; p < 0.001); 4.893 (1.799–13.301; p < 0.001); 2.539 (1.468–4.391; p < 0.001); 2.862 (1.731–4.732; p p < 0.001). Sub-analysis for Family Medicine RTP: OR 4.960 (1.135–21.675 95% CI; p = 0.033), 4.857 (1.110–21.256; p = 0.036); 1.969 (0.597–6.496; p = 0.266); 2.125 (0.824–5.482; p = 0.119). LRA showed that EE had an indirect relationship with presence of emotional exhaustion and depersonalization, and a direct relationship with lack of personal accomplishment. But those relationships didn't present significant statistical difference in Family Medicine RTP sub-analysis.

Conclusion: In our population, PR in a low EE are very exposed to suffer BO, especially to whom are involved in a Hospital RTP. It doesn't appear to happen in Family Medicine PR, who despite of presenting a better EE, they have a higher BO presence. It could be another cause of BO in Family Medicine PR. PHEEM-Ecu promises to be a useful tool in assessing EE of Ecuadorian RTP.

http://dx.doi.org/10.1016/j.riem.2017.01.131

Modelo pionero de entrenamiento en trauma vascular impreso en 3D en base a imágenes de pacientes reales: un trabajo interdisciplinario de simulación en educación quirúrgica

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Introducción: La cirugía vascular se caracteriza por su alta complejidad técnica en especial en el contexto del trauma. La simulación ha demostrado ser una herramienta efectiva en entregar competencias quirúrgicas pero aún no existen buenos modelos de entrenamiento en cirugía vascular de grandes arterias. La nueva tecnología de diseño e impresión 3D podría permitir crear modelos de arterias en base a imágenes de pacientes reales. El objetivo de nuestro trabajo fue diseñar un modelo para el entrenamiento de cirugía de grandes arterias utilizando tecnología de diseño e impresión 3D.