Title: VALIDATION OF A PICTORIAL NAUSEA RATING SCALE FOR CHILDREN

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ABSTRACT BODY:

BACKGROUND: Nausea management in children has been limited by the absence of a valid pictorial rating scale analogous to faces scales used for pain such as the Faces Pain Scale - Revised (FPS-R) (1). The Baxter Animated Retching Faces (BARF) scale, a six-item faces scale with a neutral face as the zero “no nausea” anchor and a retching face as the 100% or “most nausea” anchor, has been developed (figure 1). (2) The aim of this study was to validate this scale as a reliable method to quantify the intensity of nausea in children.

METHODS: With IRB approval and written parental consent, 175 children aged 7-18 yr were recruited from 2 centers— 100 with gastro-intestinal symptoms in the emergency department (ED) and 75 healthy ASA 1-2 children undergoing day surgery. All patients rated their pain and nausea before and after receiving anti-emetic or analgesic therapy, using a 10 cm visual analog scale (VAS) and a pictorial scale (FPS-R and BARF), presented in a random order.

RESULTS: The Spearman correlation of the 395 paired BARF and nausea VAS scale measurements was 0.82, corresponding to a 0.83 correlation between the 335 paired FPS-R and pain VAS scores. There was a weaker correlation between the VAS -Pain and VAS-Nausea scales (Spearman correlation 0.27) and between the faces pain (FPS-R) and BARF scales (Spearman correlation 0.49). The mean pre-treatment BARF scores decreased significantly after antiemetic treatment ((2.54 ± 1.5 vs. 1.49 ± 1.2, p<0.0001), while FPS-R scores (p=0.47) and VAS-pain scores (p=0.20) did not.

DISCUSSION: The results support the validity of the BARF scale as an instrument for measuring nausea in 7-18 year old children under the study conditions. BARF has content validity as shown by higher scores in patients requiring antiemetics. The BARF has convergent validity with the VAS for nausea, the current standard for measuring subjective symptoms in adults. Discriminant validity is shown by (a) the weaker correlation between BARF and FPS –R compared to those between BARF and VAS-nausea, and (b) by a reduction in BARF but not pain scores following antiemetic therapy. Future studies will determine the clinical benefits of measuring nausea on the BARF scale and treating those with high scores before the onset of postoperative vomiting in children.

REFERENCES: (1) Pain 2001; 93: 173-83 (2) E-PAS2008:633748.3

FIGURE 1: BAXTER ANIMATED RETCHING FACES (BARF) SCALE