Results
The mean SFAPE and SAFE scores were significantly higher in the simulation group (14.5 ± 3.1, p=0.046 and 10.1 ± 2.08, p=0.016) than in the control group. There wasn’t significant difference in the duration of acquisition of the images.

Materials and Methods
A randomized controlled trial with parallel groups was conducted in our gynecological department (University of Angers, France). All the medical students who were present at the time of the study were invited to participate. Twenty participants were randomized to a 1:1 ratio in the simulation group and control group of 10 students each. All participants received a two hours theoretical course on the physical basis of ultrasound, the use of probes, as well as the basic principles of trans-vaginal ultrasound examination. Standardized images which have to be performed in case of gynecological emergencies were also taught. The training group then had a 20-minute pelvic ultrasound training on a trans-vaginal ultrasound simulator SYMBIONIX®. All the participants were then evaluated by a senior (blind of the randomization) on the quality of images taken directly in patients consulting for gynecological emergencies. The quality of five standardized images were evaluated : sagittal and coronal section-plans of the uterus, left and right ovarian section-plans and a Morrison pouch view. The main analysis was based on two image quality scores described by Salomon et al with the French Society for the Improvement of Ultrasound Practices (SFAPE) and by Popowski et al., Standardization Acute Female Echography (SAFE). A secondary analysis focused the duration of acquisition of the images.

Conclusion
Thanks to a short specific training session, novices students improve the quality of gynecological ultrasound performed in context of emergencies.