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Research Letter

Introducing ultrasonography in family medicine training: a pilot evaluation

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ETHICS APPROVAL

This study was approved by the ethics committee of the ER SPURBO 7479 research team (Brest, France).

Dear Editor

Ultrasonography is increasingly used across medical specialties, including family medicine, where it can reduce diagnostic delays, improve accuracy and reduce healthcare costs[1]. For underserved areas, GPs with ultrasonography equipment can enhance patient care by providing timely imaging[2]. However, ultrasonography training in family medicine is often inadequate, leaving GPs to rely on empirical methods or informal teaching. In France, ultrasonography training is not standardized in the family medicine curriculum, although postgraduate diplomas exist in some universities. The study described in this letter evaluated the feasibility and perceived usefulness of a 1-day introductory ultrasonography course for family medicine interns at the Brest School of Medicine in Brittany, France.

In December 2022, 21 family medicine interns voluntarily participated in this course, which combined theoretical and practical sessions. Pre- and post-course surveys assessed their confidence, knowledge and perceptions. The theoretical session covered ultrasound principles and six practical applications: venous thrombosis detection, bladder volume, abscess visualization, pyelocaliceal dilation, abdominal effusion and gallstones. During the practical session, interns performed ultrasound scans on predefined anatomical sites using three ultrasound machines.

Pre-course surveys revealed that all participants had prior experience with ultrasonography during internships, mainly in emergency or gynecology settings, and 47% reported no confidence in using ultrasonography. Post-course, all participants expressed confidence in at least one clinical application. Key improvements included increased confidence in using ultrasound independently (mean score: 3.2–5.2 out of 10) and handling basic functions (4.2–6.4 out of 10). The desire for further training remained strong (7.7–8.2 out of 10). Interestingly, the likelihood of billing for ultrasound exams without further training decreased significantly (5.7–1.7 out of 10), reflecting increased awareness of their limitations (Table 1).

Conclusion

This study highlights the demand for structured ultrasonography training in family medicine. A 1-day course improved confidence and provided a foundational skill set, but participants emphasized the need for further training to ensure safe and effective use. Integrating ultrasonography into family medicine curricula nationwide could standardize training and optimize patient care, particularly in underserved areas[3,4].

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Table 1: Changes in family interns' perceptions on ultrasonography before and after a 1-day introductory course

Survey question description	*n*	Before course (mean)	After course (mean)	Difference (mean)	*p*-value (CI)
Desire to use ultrasound imaging in your general practice	21	8.7	9.3	0.6	0.1008 (–1.47–0.13)
Confidence in using ultrasound imaging without supervision	21	3.2	5.2	2.0	0.0023 (–3.39– –0.79)
Level of confidence in using the basic ultrasonography functions	21	4.2	6.4	2.2	0.0021 (–3.53– –0.84)
Likelihood of billing for an ultrasound exam at your current level of knowledge	21	5.7	1.7	–4.0	0.0001 (2.11–5.88)
Likelihood of following additional ultrasonography training after this 1-day introductory course	21	7.7	8.2	0.5	0.2898 (–1.51–0.46)
Relevance of ultrasound imaging in general practice	21	8.2	9.2	1.0	0.0114 (–1.75– –0.24)
Probability of using ultrasonography in the future without additional training	21	2.6	3.7	1.1	0.1868 (–2.62–0.53)
Probability of using ultrasonography in the future after additional training	21	8.4	8.8	0.4	0.191 (–0.96–0.19)

CI, confidence interval.

References

1 Andersen CA, Holden S, Vela J, Rathleff MS, Jensen MB. Point-of-care ultrasound in general practice: A systematic review. *Annals of Family Medicine* 2019; **17:** 61-69. DOI link, PMid:30670398

2 Sorensen B, Hunskaar S. Point-of-care ultrasound in primary care: a systematic review of generalist performed point-of-care ultrasound in unselected populations. *Ultrasound Journal* 2019; **11.** DOI link, PMid:31749019

3 Shaddock L, Smith T. Potential for use of portable ultrasound devices in rural and remote settings in Australia and other developed countries: a systematic review. *Journal of Multidisciplinary Healthcare* 2022; **15:** 605. DOI link, PMid:35378744

4 Peng S, Micks T, Braganza D, Sue K, Woo M, Rogers P, et al. Canadian national survey of family medicine residents on point-of-care ultrasound training. *Canadian Family Physician* 2019; **65:** 523.