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Conflict of interest

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Appendix A. Supplementary data

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M.V.F. Garcia[a,*], R. Souza[a], P. Caruso[a,b]

[a] *Divisao de Pneumologia, Instituto do Coracao, Hospital das Clínicas HCFMUSP, Faculdade de Medicina da Universidade de Sao Paulo, Sao Paulo, Brazil*
[b] *Intensive Care Unit, AC Camargo Cancer Center, São Paulo, Brazil*

Corresponding author.
E-mail address: marcos_garcia@usp.br (M.V.F. Garcia).

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Modelo para la adquisición de competencias en donación y trasplante para médicos residentes de medicina intensiva

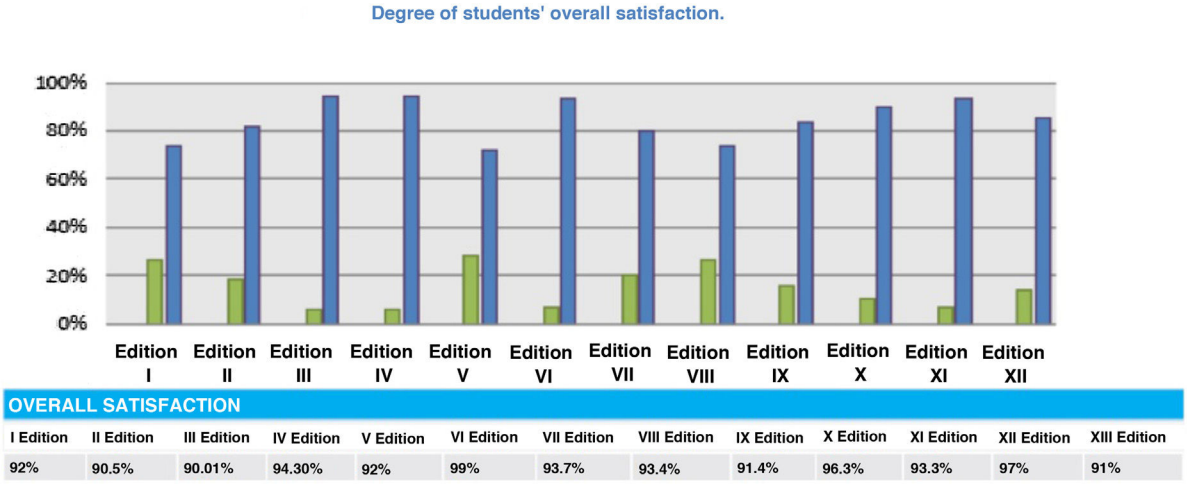
Implementing continuous medical education (CME) programs regarding the healthcare personnel involved in the Spanish model of donation and transplant is among the basic principles that define such a model.

The mission of the Andalusian Regional Transplants Coordination (CATA) is to promote and coordinate organ donation and transplant by fostering and developing educational activities to keep all healthcare professionals involved in this process, as well as anybody who may become part of such activities updated in organ donation and transplant.

Training throughout the entire process of organ donation and transplant is an essential part of the continuous medical education of intensive medicine residents[1] because it is at the intensive care units where we find patients who may progress towards brain death or become donors in controlled asystole.[2] The results is that many transplant coordinators in Spain are intensivists, because they are the ones in charge of activating and promoting all the procedures that, over the last few years, have made organ donation possible, and elevated the rate of successful organ transplant significantly.[3]

The continuous medical education program of our specialty includes the need for training in this particular matter.[4] The resident needs to adquire theorical knowledge including clinical and legal criteria surrounding brain death, general principles of the transplanted patient during the postoperative period, and treatment including immunosuppresion.[5]

To bring this training program to life the ONT-SEMICYUC Commission was created to establish the training actions that should be taken throughout 4 annual courses conducted in Spain (Oviedo, Barcelona, Madrid, and Granada). Regarding the Granada course, the IAVANTE is one of the 3 activity lines developed by the Andalusian Public Foundation of Progress and Healthcare oriented towards competence



OVERALL SATISFACTION												
I Edition	II Edition	III Edition	IV Edition	V Edition	VI Edition	VII Edition	VIII Edition	IX Edition	X Edition	XI Edition	XII Edition	XIII Edition
92%	90.5%	90.01%	94.30%	92%	99%	93.7%	93.4%	91.4%	96.3%	93.3%	97%	91%

Figure 1 Degree of students' overall satisfaction.

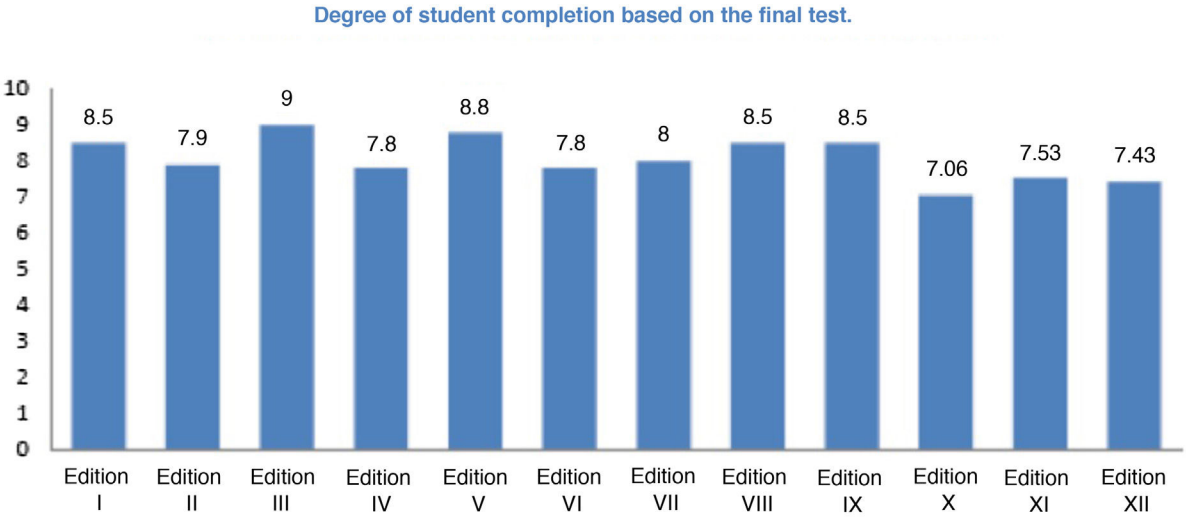


Figure 2 Degree of student completion based on the final test.

training, acquisition, and assessment in the healthcare setting by implementing technological innovations as part of continuous medical education programs.[6]

The IAVANTE and CATA lines—with funding from the National Transplant Organization (ONT)—have been organizing a program aimed at internal medicine residents in their 3rd, 4th, and 5th year since 2006.

The training takes places at the Advanced Multifunctional Center for Simulation and Technological Innovation (CMAT) of IAVANTE in Granada by applying robotic and setting simulations in this learning process.[7,8]

Our objective in this study is to discuss the training program of organ donation and transplant implemented in our Autonomous Community for the first time in 2006. Also, to discuss the profile of the students involved and the results obtained in competence acquisition and professional satisfaction.

Therefore, the structure and objectives of the program, the assessment of competence acquisition, student's satisfaction, and the profile of the students who have participated in the 13 edition have been studied here.

The course specific goals are shown on table 1 of the Supplementary Data.

Course duration is 42 h, 20 of these hours in the modality of e-learning plus 22 on-site hours including theory, case reports, and workshops with state-of-the-art technology in advanced robotic simulations.[9] The content of this course includes several sessions shown on Figures 1 and 2 of the Supplementary Data. Tests have all been adapted to the Moodle platform, and both the teachers and the students have been tested on the organizational aspects of the course.

The teaching staff includes healthcare and non-healthcare professionals experienced in the process of organ and transplant donation.

Overall results,with a total of 453 students in the 13 editions this course has had,are shown by year of training on Figure 3 of the Supplementary Data. Also, the geographical origin of thestudents is shown on Figure 4 of the Supplemen-

tary Data. Of the total number of students, 263 were women (62%) and 160 were men (38%).

In the different tests carried out by the students, the degree of satisfaction with this course in the different editions exceeds 90% (Fig. 1). Satisfaction with the teacher staff is 100% in the last 3 editions.

The final competence test reaches expert level in all editions with a mean competence rate of 7.5 (Fig. 2). In addition, the grade of recommendation by the students in the last edition was 9.68 (Figure 5 of the Supplementary Data).

Based on the aforementioned results we can deduce how important a proper training system actually is regarding the Process of Organ Donation and Transplant. We believe that a system focused on promoting and broadening competences of new healthcare professionals in intensive medicine in this matter, including new technologies, is of paramount importance.[10] Since most transplant coordinators in Spain are intensivists, the figure of 40.2 donors per million population reached back in 2021 is indicative of the effort made by intensive medicine residents in organ donation and transplant.

The training program implemented in Andalusia(Spain) is one of the most ambitious and comprehensive programs conducted to this date. Therefore, we believe that the structure of such a plan can be an example for the implementation of new training models or expansion of the existing ones to achieve more qualified professionals nationwide in such a significant and important field as the Process of Organ Donation and Transplant.

We should also mention the need for conducting more studies in the future to corroborate the fact that a proper continuous medical education plan on this matter translates into improved rates of donors per million population.

Appendix A. Supplementary data

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J.M. Pérez Villares[a,b], L. Alarcón Martínez[c], P. Fernández Florido[a,*]

[a] *Unidad de Cuidados Intensivos, Hospital Universitario Virgen de las Nieves, Granada, Spain*
[b] *Coordinación Autonómica de Trasplantes, Andalucia, Spain*
[*A*

FF0015]cFundación Progreso y Salud, Linea IAVANTE, Consejería de Salud y Familias, Junta de Andalucía, Andalucía, Spain

Corresponding author.
E-mail addresses: pedrofernandezflorido92@gmail.com, gonpeferflo@hotmail.com (P. Fernández Florido).

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Abbreviations: CME, Continuous Medical Education; CATA, Andalusian Regional Transplants Coordination; ONT, National Transplant Organization; CMAT, Advanced Multifunctional Center for Simulation and Technological Innovation.