Aesthetic Medicine 2025; Vol. 11, N. 3: 16674 DOI: 10.57662/am.v11i3.16674

Original article

Emergency management in the aesthetic medicine practice: A questionnaire to define the future of training in Italy

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Abstract. *Background:* Out-of-hospital cardiac arrest is a critical condition with an average survival rate of around 10%, heavily influenced by the speed and competence of the intervention. Specific training for emergency management, such as BLSD (Basic Life Support and Defibrillation), is not mandatory for all physicians, including aesthetic doctors, who may encounter emergencies during outpatient treatments. *Aim:* This study developed and validated a questionnaire to assess aesthetic doctors' preparedness emergency management, the availability of emergency devices in clinics, the level of experience with handling emergencies, and opinions on specific training for aesthetic doctors. *Methods:* A working group of aesthetic doctors developed the questionnaire after thoroughly reviewing the literature and current regulations. It was subsequently administered to a sample of 10 aesthetic doctors. *Results:* The evaluation by the participants showed a high alignment with the study's objectives (average of 4.5 out of 5) and a high perceived usefulness for aesthetic medicine (average of 4.7 out of 5). The results indicate that 60% of the doctors had completed BLSD and ACLS/ALS (Advanced Cardiovascular Life Support/Advanced Life Support) courses, while 100% of the participants believe that BLSD should be mandatory. Additionally, 50% of the doctors had managed medical emergencies in the clinic, and 10% had dealt with a cardiac arrest. *Conclusions:* Despite the small sample size, the results suggest the need for mandatory training to improve patient safety. Sharing the questionnaire with scientific societies in aesthetic medicine and encouraging more colleagues to complete it could contribute to the broader adoption of these training practices.

Key words: BLSD, training, resuscitation

Introduction

Out-of-hospital cardiac arrest is a serious condition that affects approximately 1 in 1,000 individuals in industrialized countries[1,2]. The impact on patients is significant, with a survival rate of around 10%[1,2]. Several factors influence this outcome, the most critical of which is the prompt intervention of bystanders[3]. Other important factors include environmental conditions[2] and organizational elements, such as the quick response of emergency services[4], the presence of trained emergency personnel[5], and the immediate availability of defibrillators[6,7]. For these reasons, as with time-dependent diseases[8] and medical emergencies, where response time plays an important role in reducing the risk of negative patient outcomes[5,9].

Several standardized training courses have been developed to manage cardiac arrest effectively. These courses aim to enhance healthcare professionals' ability to handle patients in cardiac arrest, leading to significant improvements in the operational autonomy of staff[10]. However, this training is not mandatory in most workplaces, including aesthetic medicine ones. This concern was highlighted in a letter published in the journal Aesthetic Medicine[11] and has been widely discussed in the literature[12]. It has been documented

that cardiac arrest can occur during outpatient visits[13], and when these situations are managed by inadequately trained personnel without the necessary equipment, the outcomes are often unfavorable[14].

When patients undergo aesthetic treatments in an outpatient setting, there is a risk of adverse events, such as allergic reactions[15]. In this context, having the right competencies is crucial. Given the absence of mandatory training, it is vital to evaluate the current preparedness for managing emergencies. To address this, we developed a questionnaire to assess the training levels of aesthetic doctors and discussed it with professionals from various specialties within the field.

Our study aims to present the research protocol that we plan to promote and share with Italian scientific societies focused on aesthetic medicine.

Materials and Methods

The SIMED (Italian Society of Medicine and Scientific Divulgation) research group formed a team of physicians specializing in aesthetic medicine. This team, consisting of five doctors, worked in two distinct phases.

In the first phase, each member individually explored various topics, including a literature review on the epidemiology of related events, the Italian regulations governing the authorization of aesthetic medicine clinics, emergency management protocols for cardiac arrest, Advanced Life Support (ALS) algorithms, and the positions of different scientific societies on these topics.

After completing their analyses, the research findings were shared with the entire working group, which then collaborated to develop and validate a structured questionnaire.

After developing the questionnaire, we distributed it to 10 aesthetic doctors to gather feedback on the consistency of their responses and their opinions about the tool. The evaluation focused on the average level of agreement among the participants, using a rating scale where 1 indicated an inadequate item and 5 represented an adequate one (supplementary).

Results

The complete questionnaire, including all the questions, can be found in Supplementary Material 1. Within it, five areas of analysis are outlined, as shown in Table 1, corresponding to the different modules of the questionnaire. The agreement among the working group was measured on a scale where 1 indicates items that are not necessary, and 5 indicates items deemed necessary. This evaluation reflects the consensus among the group members on the importance of each item.

The surveyed doctors had an average age of 44.1 years (SD: 8.1), with 80% being female. On average, they had been practicing for 6.8 years (SD: 6.3). Ten percent of the doctors had not completed a specialty school or the general medicine course, while 60% had completed a university master's program to qualify as competent medical professionals.

In terms of the availability of devices for managing cardiac arrest, an automated external defibrillator

Table 1. Structure of the Questionnaire.

Question Category	Number of Items	Response Type	Average Agreement of the Working Group
Demographic and Educational Information	7 items	3 open-ended, 4 closed-ended	5
Information on Devices Available in the Clinic	3 items	3 closed-ended	4
Perceived Autonomy	6 items	6 Likert scale responses	3
Emergency Training Courses	8 items	1 multiple-choice, 1 open-ended, 6 dichotomous	4
Information on Previous Emergencies Managed in the Clinic	4 items	2 dichotomous, 2 Likert scale responses	4

Table 2. Questionnaire Evaluation.

	M (SD)
Completion Time	4.0 (1.8)
Clarity of Questions	3.2 (1.0)
Alignment with the Study Aim	4.5 (0.9)
Usefulness for Aesthetic Medicine	4.7 (1.1)

(AED) was available in 40% of the clinics, a resuscitation mask in 60%, and a glucometer in 30%.

Regarding training, 60% had completed a BLSD (Basic Life Support and Defibrillation) course, and 60% had completed an ACLS/ALS (Advanced Cardiovascular Life Support/Advanced Life Support) course. All of the doctors (100%) believe that the BLSD course should be mandatory for aesthetic doctors, and they reported that in the various training courses qualifying for the profession, medical emergency topics were not covered, and a BLSD course was not offered. Furthermore, 80% believe that the BLSD course should be included in the training programs for aesthetic medicine. Additionally, 50% reported having managed medical emergencies in the clinic, and 10% reported having managed a cardiac arrest.

As shown in Table 2, study participants were asked to give their opinion about: the time to fill in the questionnaire; the clarity of the questions; consistency with the study aim; and usefulness for aesthetic medicine field with a 5-point Likert scale. The table summarizes the answer with the medium and Standard Deviation for each area investigated.

Discussion

To align with the study's objectives, a questionnaire was developed and subsequently validated. Colleagues who reviewed the questionnaire noted a strong connection between the study's purpose and the content of the questionnaire, giving it a mean score of 4.5 (SD=0.9). Additionally, the questionnaire's relevance to aesthetic medicine was rated very positively, achieving a mean score of 4.7 (SD= 1.1).

Although it is not a requirement, most doctors had completed a Basic Life Support and Defibrillation (BLSD) course. This may explain why 100% of the doctors support making the BLSD course mandatory; however, the small sample size could suggest potential selection bias. Notably, 50% of the participants have managed a medical emergency in the clinic, and 10% have dealt with a cardiac arrest situation. Additionally, all doctors agree that training in aesthetic medicine regarding emergency management is insufficient.

Due to the small sample size, these results cannot be generalized to all doctors. However, we believe that distributing the questionnaire to scientific societies and colleagues, along with conducting a thorough analysis of the responses, could enhance our understanding of these issues and help identify the best strategies for improving the safety of both patients and practicing doctors.

Conclusions

The developed questionnaire is a valuable tool for understanding how aesthetic doctors are trained and manage emergencies. It is essential to share the results with scientific societies and stakeholders in the field of aesthetic medicine to encourage a wider dissemination and use of the questionnaire.

Declaration of Interests: All the research has been conducted adhering to the recommendations contained in the Declaration of Helsinki and it complies with the International Guiding Principles that regulates research activities. All the authors have no Conflict of Interest to declare.

References

1. Stirparo G, Andreassi A, Sechi GM, Signorelli C. Spring, it's time to ROSC. J Prev Med Hyg. 2023; 64(1):E87-E91.
2. Sanfilippo F, Corredor C, Santonocito C, et al. Amiodarone or lidocaine for cardiac arrest: a systematic review and meta-analysis. Resuscitation. 2016; 107:31-37.
3. Cournoyer A, Grunau B, Cheskes S, et al. Clinical outcomes following out-of-hospital cardiac arrest: the minute-by-minute impact of bystander cardiopulmonary resuscitation. Resuscitation. 2023; 185:109693.
4. Nehme Z, Andrew E, Bernard S, Smith K. Impact of cardiopulmonary resuscitation duration on survival from paramedic witnessed out-of-hospital cardiac arrests: an observational study. Resuscitation. 2016;100:25-31.

5. Bellini L, Fagoni N, Andreassi A, Sechi GM, Bonora R, Stirparo G. Effectiveness of cardiopulmonary resuscitation at the workplace. Med Lav. 2023; 114(3):e2023010.
6. Delhomme C, Njeim M, Varlet E et al. Automated external defibrillator use in out-of-hospital cardiac arrest: current limitations and solutions. Arch Cardiovasc Dis. 2019; 112(3):217-222.
7. Auricchio A, Gianquintieri L, Burkart R et al. Real-life time and distance covered by lay first responders alerted by means of smartphone-application: implications for early initiation of cardiopulmonary resuscitation and access to automatic external defibrillators. Resuscitation. 2019; 141:182-187.
8. Fagoni N, Bellini L, Bonora R, et al. Changing the stroke network during pandemic scenarios does not affect the management of patients with a positive Cincinnati prehospital stroke scale. Neurol Sci. 2024; 45(2):655-662.
9. Palmisano A, D'Angelo M, Gandolfini I et al. Borderline rejection: to treat or not to treat? Transpl Immunol. 2024; 84:102047.
10. Semeraro F, Scapigliati A, Tammaro G, Olcese U, Cerchiari EL, Ristagno G. Advanced life support provider course in Italy: a 5-year nationwide study to identify the determinants of course success. Resuscitation. 2015; 96:246-251.
11. Solla D, Magri Piccinini A, Gambolò L. Aesthetic medicine and basic life support: should it be a mandatory traning? Aesthetic Medicine. 2024; 10(3):e2024016.
12. Rohrich RJ, Parker TH, Broughton G, Garza R, LeBlanc D. The importance of advanced cardiac life support certification in office-based surgery. Plast Reconstr Surg. 2008; 121(3):93e-101e.
13. Goh CE, Mooney SJ, Siscovick DS, et al. Medical facilities in the neighborhood and incidence of sudden cardiac arrest. Resuscitation. 2018; 130:118-123.
14. Kudenchuk PJ, Stuart R, Husain S, Fahrenbruch C, Eisenberg M. Treatment and outcome of out-of-hospital cardiac arrest in outpatient health care facilities. Resuscitation. 2015; 97:97-102.
15. Oranges CM, Brucato D, Schaefer DJ, Kalbermatten DF, Harder Y. Complications of nonpermanent facial fillers: a systematic review. Plast Reconstr Surg Glob Open. 2021; 9(10):e3851.

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Accepted: 22 July 2025
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Supplementary File

Document 1 – Questionnaire

Demographic and Educational Information

- Gender:
- Age:
- How many years have you been practicing as an Aesthetic Doctor?
- Have you obtained a specialization degree?
  - No
  - No, but I completed a General Medicine course
  - Yes, in Surgical Area (Urology, Plastic Surgery, General Surgery, etc.)
  - Yes, in Emergency Area (Emergency, Anesthesia)
  - Yes, in Clinical Area (Cardiology, Pulmonology, Nephrology, etc.)
  - Yes, in Service Area (Radiology, Hygiene and Preventive Medicine, Occupational Medicine, etc.)
- Have you attended a course for practicing as an aesthetic doctor?
  - No, I have not attended any course
  - Yes, I completed a university master's degree
  - Yes, I attended a professional course
  - Yes, I attended some master classes
- Where do you primarily practice your activity?
  - In a self-owned clinic as the medical director
  - In a third-party clinic without the role of medical director
  - In a self-owned clinic without the role of medical director
  - In a third-party clinic as the medical director
- Where do you primarily practice your activity?
  - Northern Italy
  - Central Italy

- Southern Italy and Islands
- Abroad

2. **Information on Devices Available in the Clinic**

- Is there an Automatic Defibrillator in the clinics where you practice?
  - Yes, always available
  - No, never available
  - Yes, in most clinics
  - Yes, but in few clinics
  - I don't know
- Is there a Ambu-Valve Mask in the clinics where you practice?
  - Yes, always available
  - No, never available
  - Yes, in most clinics
  - Yes, but in few clinics
  - I don't know
- Is there a Glucometer in the clinics where you practice?
  - Yes, always available
  - No, never available
  - Yes, in most clinics
  - Yes, but in few clinics
  - I don't know

3. **Perceived Autonomy**

- How confident do you feel in managing an allergic reaction in the clinic?
  1 (not at all) 5 (very)
- How confident do you feel in managing an asthmatic reaction in the clinic?
  1 (not at all) 5 (very)
- How confident do you feel in managing a patient with hypotension and loss of consciousness?
  1 (not at all) 5 (very)
- How confident do you feel in managing a patient in cardiac arrest?
  1 (not at all) 5 (very)
- How confident do you feel in managing a patient in respiratory arrest?
  1 (not at all) 5 (very)
- How confident do you feel in managing a patient with severe hypoglycemia and loss of consciousness?
  1 (not at all) 5 (very)

4. **Emergency Training Courses**

- Have you attended a BLSD (Basic Life Support and Defibrillation) course?
  - Yes, I attended a course with certification
  - Yes, I attended a course without certification
  - No, I have never attended a course
- If yes, how many years ago did you attend the training course?
- If you received a certificate, is it still valid? Yes/No
- Have you attended an ACLS/ALS (Advanced Life Support) course? Yes/No
- Do you think the BLSD course should be mandatory for aesthetic doctors? Yes/No
- If you attended a master's or qualifying school for the profession of aesthetic doctor, were clinical emergency topics explained exhaustively? Yes/No
- If you attended a master's or qualifying school for the profession of aesthetic doctor, was a BLSD course offered? Yes/No
- Do you think the BLSD course should be included in the qualifying training courses for the profession of aesthetic doctor? Yes/No

5. **Information on Past Emergencies Managed in the Clinic**

- Have you ever had to manage a clinical emergency in the clinic? Yes/No
- If you answered yes to the previous question, please rate your level of autonomy:
  1 (not at all) 5 (very)
- Have you ever managed a cardiac arrest in the clinic? Yes/No
- If you answered yes to the previous question, please rate your level of autonomy:
  1 (not at all) 5 (very)