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Giovanni Schiuma
Antonio Lerro *Editors*

IFKAD25 Knowledge Insights: Exploring Knowledge Futures

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Can Diversity Be an Opportunity to Enhance Ethics? Findings from a Multinational Survey in the Context of Trauma and Emergency Surgery

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Abstract. Ethics now serves as a fundamental pillar of modern medicine, and no medical specialty is an exception. Acute care and trauma (AC&T) surgery is a complex clinical field, often marked by high time pressure and limited knowledge about the patient and circumstances. Our study aims to explore the role of diversity in AC&T teams as an opportunity to improve ethical practices. The study analyzes 402 questionnaires from medical professionals in 72 countries, focusing on three ethical issues: patient informed consent as a knowledge transfer tool, the team leader as an ethical guide, and ethics as a training subject. The findings highlight the potential of diversity to improve attention to ethical concerns, providing valuable insights for hospital managers and healthcare professionals.

Keywords: Trauma and emergency surgery · Diversity · Ethics

1 Introduction

Health systems face complex challenges driven by aging [1], digital growth [2], healthcare spending cuts [3], and clinician shortages [4]. Providing quality, effective, patient-satisfying, cost-effective care requires collaboration among health professionals [5]. Multidisciplinary and interprofessional teamwork is increasingly essential across healthcare settings and diseases, but best practices need to be identified [6]. Literature shows teamwork benefits, including changing practices, raising standards, and improving patient experiences [5, 7].

Teamwork across disciplines in trauma and emergency surgery, known as acute care and trauma (AC&T), is vital given its complex nature. AC&T team members face stress,

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time constraints, limited knowledge, patient circumstances, and potential complications [8].

Urgent decision-making in AC&T surgery may raise various ethical concerns. When confronted with ethical issues, clinicians are compelled to promptly evaluate the advantages and disadvantages of their choices and the limited information they possess regarding their patients [9]. Ethics also includes the consistent and compassionate translation of knowledge about the potential options and decisions with patients and their families or caregivers [10–13]. While traditional knowledge translation and sharing tools in elective surgery would include soliciting second opinions from colleagues and looking into the pertinent literature and guidelines [14–18], such strategies may not be feasible during emergencies. As a consequence, there is a significant likelihood of making errors or encountering ethical dilemmas when managing injured patients. This is especially true when lifesaving procedures are implemented during the initial assessment and resuscitation processes [19]. At the same time, the patient may have limited or no opportunity to be informed.

AC&T teams comprise a multidisciplinary group of individuals from various specialties, including anesthesia, emergency medicine, general and orthopedic surgery, nursing, and supporting staff, guided by a team leader responsible for coordinating the members' activities [20]. The team leader is key, as, guided by strong ethical principles, can experience conflicting obligations to stakeholders during the common emotional and complex debates and must lead the team through potentially challenging ethical situations with strength, compassion, fairness, and justice while eliminating potential implicit and explicit biases [21]. In fact, making tough decisions requires the ability to seamlessly organize all team members to achieve the desired objective, even though decision-making is frequently viewed through the lens of an individual's internal cognitive process [8, 19].

In such scenarios, knowledge translation, knowledge sharing, and knowledge transfer mechanisms are essential components of the team leader's and multidisciplinary team members' activities to communicate effectively and reconcile their differences, thereby enhancing their potential [14, 22], especially when ethical dilemmas are in place [23].

By definition, emergency surgery teams are diverse, as they consist of professionals with various backgrounds and specialties [20]. In order to provide adequate care to their patients, these professionals must possess interpersonal or soft skills [8]. The situation may be even more complex when teams include members who can be considered or perceived as diverse in terms of gender, race, ethnic background, age, political views, and sexual orientation.

The medical literature has investigated the topic through the involvement of scientific societies. Studies conducted in general surgery have demonstrated that global performance is enhanced when the medical care environment is diverse, and patient satisfaction is also enhanced in such contexts [24]. However, recent investigations have also underscored the necessity of dedicated organizational and management policies to harness the full potential of diversity, which may eventually represent more of a problem than an asset, enlarging organizational gaps [22].

Our research deepens the factors that can improve certain ethical aspects, including the perceived importance of ethics as an educational subject, the perceptiveness of the

moral role of the trauma team leader, and the importance of patient consent, comparing teams with their members perceiving them as "diverse" and those that were not.

2 Methodology

The study was conducted within a larger investigation about team dynamics in AC&T settings endorsed by the World Society of Emergency Surgery (WSES), one of the largest scientific societies in the field, with 900+ international members. An online survey was created using Google Forms. The full protocol and statistical results, to which this article refers and comments, were published in the society's official peer-reviewed journal [8, 25].

402 out of the 917 WSES members responded to the survey, with a response rate of 45.84%. A preliminary analysis was conducted to characterize the sample distribution in terms of gender, institution type (academic versus non-academic), respondents' membership in an officially set trauma team, and a diverse team. Furthermore, descriptive statistics were generated for the twelve ethical inquiries. Ultimately, the queries were categorized into three primary latent variables. In order to ascertain whether respondents differed by gender, type of institution, membership in an officially designated team, and a team that the surgeons characterized as "diverse," Kruskal-Wallis analysis was implemented.

3 Results

The 402 fully filled questionnaires obtained came from professionals from 72 countries, with the majority located in Europe. The sample was composed mainly of male surgeons (84%). Most participants belonged to university hospitals (72%), and officially established trauma teams (79.6%). 62% of the respondents indicated that they were employed in a diverse team. The full results may be gathered from the article by Cobianchi et al. [25]. The main findings can be summarized by examining the variations among respondents.

Informed consent is considered a relevant knowledge translation tool in patient/doctor shared decision-making [13], and signing it stands as a meaningful ethical moment worth discussing [26]. The survey's results stressed the importance of consent, regardless of the participants' gender. Interestingly, respondents from academic institutions demonstrated a higher level of interest in the subject matter. In the same vein, respondents from formalized trauma teams paid more attention to this subject. Lastly, surgeons who identified themselves as members of a diverse team underscore the importance of consent.

Concerning the role of the team leader as an ethical leader, results do not indicate any statistically significant differences in gender or type of institution. In contrast, findings underline that there are statistically significant differences between respondents belonging to formalized trauma teams and those part of diverse groups.

Last but not least, the majority of respondents were enthusiastic about the possibility of receiving training in ethics-related subjects, with no differences in responses among genders. Those affiliated with academic institutions prioritized ethical training more

highly, similar to respondents from officially designated trauma teams. Again, surgeons who were members of diverse teams exhibited a higher level of awareness.

4 Discussion and Conclusion

Ethics is a crucial pillar in modern medicine, and the AC&T setting is no different, as emergency and trauma situations often demand rapid ethical decision-making by surgeons and clinicians. Our study, supported by a major scientific society, explored this issue by focusing on team diversity. It examined three key ethical concerns, namely, informed consent, the role of the leader as a moral guide, and ethics training for medical professionals, through perspectives based on gender, institutional affiliation, team structure, and diversity.

Results show that surgeons from academic institutions, official trauma teams, and diverse groups prioritize informed consent more, viewing it as essential for knowledge sharing and shared decision-making between doctors and patients. The concept of surgical consent has evolved from a legal formality to a vital communication tool that respects patient preferences [14, 27]. Increasingly, the emphasis is on listening more and speaking less, even in time-sensitive AC&T settings, to improve knowledge exchange [26]. Surgeons in academic or formalized teams acknowledge this importance more, likely due to a patient-centered culture and ongoing dialogue, especially within universities and structured teams. Notably, diverse organizations tend to perform better, despite potential challenges from member differences, because diversity often leads to better outcomes. Professionals experienced in bridging diverse colleagues are more willing to extend this approach to patient interactions [22]. This effort could mean dedicating more time to such activities or involving support staff like nurses as case managers [28].

The second focus was on the team leader's role as an ethical figure capable of integrating core ethical principles into decisions. Recognizing ethics' importance, team leaders in diverse, formalized groups showed heightened awareness. This indicates that those working with varied individuals believe ethics improves patient outcomes and team efficiency.

The third aspect concerned ethics training; while most surgeons see its value, those from academic backgrounds, formal teams, and diverse groups show greater engagement. Literature emphasizes the need for training in non-technical skills, including ethics [29–31] Societies have prioritized such training, especially for academic and formal groups, as it enhances knowledge transfer within diverse teams. Diversity amplifies the need for ethical education as a vital element.

Overall, our findings suggest less diverse teams may be less attuned to patient preferences. Therefore, fostering diversity in AC&T teams could be a strategic approach to improve ethical sensitivity. Existing research shows that organizational cultures (e.g., physician-centric vs. patient-centric) can coexist [32], but factors like team university affiliation and diversity seem to influence ethical awareness more. Organizations aiming for a more ethical and patient-focused approach should embed these elements into their procedures. Traditional coordination is less effective under time constraints typical in AC&T, necessitating alternative strategies. Including diverse team members as

an integrative mechanism could support ethical conduct and a patient-centered culture, providing key insights for hospital leaders, scientific societies, educators, and policymakers.

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