

Perception Among Healthcare Operators Of Post-Emergency Cold Debriefing

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Abstract:

Background: There is a growing interest in understanding how to improve the performance of a medical emergency team in a healthcare contests. Cold debriefing, carried out some time (within seven days) after an emergency is supposed to be a useful method. The purpose of this research is to assess how post-emergency cold debriefing is perceived by health care operators.

Materials and Methods: Post-emergency debriefings were planned within seven days after an in-hospital emergency. The perception of the healthcare personnel who attended the debriefing was assessed using a targeted questionnaire with a numeric rating scale from 1 to 10. A group of voluntary healthcare professionals of any role was enrolled. Ethical approval was considered not necessary based on the type of the study.

Results: Six post-emergency cold debriefings involving 63 healthcare professionals were organized. The overall perception was higher than 8 in all cases. During the debriefing a greater emotional involvement in pediatric ward and a greater risk of misunderstanding in cardiology and obstetrics wards were recorded.

Conclusion: Cold post-emergency debriefing is a very important moment in the growth of a medical emergency team. Despite the risk of conflict, it allows to improve the management of any emergency team, facing with the emotional aspect.

Key Word: Post-event debriefing; Hospital emergency; Team-work.

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I. Introduction

There is growing interest worldwide in understanding how to improve team functioning and performance in healthcare settings¹. Cohen and Bailey² define with the term “team” a group of two or more people interdependent in their respective tasks who share common goals and responsibilities. The functioning of a team is influenced by several factors which include: cohesion, communication, patient care coordination, decision-making, problem solving and finally attention to both patients and their families³. The malfunctioning of a team can be the cause of adverse events that undermine the safety of the patient⁴. Globally, according to Auraen et al.⁵, four out of ten patients are harmed when they are provided with primary or outpatient care. There are 134 million adverse events in hospitals that contribute to the death of 2.6 million patients. In the USA, medication errors are estimated to cost about \$42 billion annually⁶. In Canada, it is estimated that a predictable incident occurs every minute and eighteen seconds in healthcare settings⁷. Numerous national and international reports^{8,9,10,11} highlight how improved team functioning leads to better outcomes for patients, health professionals and health systems. Clarity of the roles of health professionals has been identified as an important factor in improving team functioning^{12,13}. Lack of clarity of roles and lack of understanding of boundaries between roles can undermine teamwork^{14,15}. According to Hudson et al.¹⁶, understanding roles is an integral part of teamwork because it generates trust and mutual respect. It promotes the optimal utilization of all professionals, improves patient care outcomes and the cost-effectiveness of the health system¹⁷. Thus, clarity of role is key for team training interventions to be effective. Furthermore, teams can be considered active learning systems in which individuals develop relationships and apply the acquired knowledge to solve problems^{18,19}. The purpose of this research is to evaluate the perception and experience of healthcare personnel (doctors, nurses, social-health workers, trainees) in relation to the meeting/reflection organized a few days after an emergency episode that occurred in various departments hospitalizations (cold debriefing).

II. Material and Methods

The setting of the study was the Cardinal Massaia hospital in Asti (Italy), a first level hospital with around five hundred beds. The study took place from October 2021 to June 2022 and involved hospital ward staff in carrying out post-adverse event debriefing (cardiac arrest or peri-arrest condition).

Study Design: Observational evaluation type.

Study Location: The debriefings took place in the wards of the Cardinal Massaia Hospital in Asti (Italy), where the Medical Emergency Team (MET) was activated, approximately seven-ten days after the event. They are defined as cold debriefing, i.e. not temporally close to the acute event. In particular six debriefings were held in the six following hospital wards: the Department of Otolaryngology, the Department of Pediatrics, the Department of Geriatrics, the Department of Medicine A, the Department of Obstetrics and the Department of Cardiology.

Study Duration: October 2021 to June 2022.

Sample size: 63 healthcare professionals.

Inclusion criteria: Healthcare professionals involved in the management of an intra-hospital emergency that required the activation of the MET. Individual participant data was recorded anonymously and candidates entered the study on a voluntary basis.

Procedure methodology

Each debriefing, lasting an average of forty-five minutes, was organized as follows:

- about a week before the date identified for the meeting, after requesting authorization from the Nursing Coordinator of the department concerned, all the healthcare personnel present during the event being discussed (doctors, nurses, residents) is summoned;
- on the day of the meeting, the medical personnel summoned form a circle in a room of the department and one of the members of the Medical Emergency Team (MET), who intervened during the emergency event, explains the Advanced Life Support (ALS) algorithm with the aim of a "refresh" for all those present;
- the debriefing is conducted by the Team leader (usually anesthesiologist) who had attended the event being reviewed;
- a MET nurse explains the clinical case for which the emergency event occurred.
- the same nurse explains the emergency event itself, in order to favor the memory of what happened;
- the same nurse consults the team present asking to highlight what were the correct actions and the wrong actions carried out during the emergency event;
- all those present intervene with a show of hands.

The debriefing was carried out according to the following scheme: strengths, weaknesses, improvement opportunities, risks of error, following the REFLECT²⁰ structure.

At the end of each debriefing, an anonymous questionnaire was administered to the participants. It is aimed at assessing the expectations about the debriefing and the obstacles encountered, through a global assessment, by the health personnel involved, with respect to this tool which is not very used in the Italian health reality. The questionnaire consists of twenty-two questions: the first four refer to age, gender, working age and qualification, the others eighteen questions refer to the perception and experience of the debriefing and are divided into thirteen questions to be assigned a score (from 1 to 10), two questions to answer yes or no and three open-ended questions.

In particular, these are the eighteen questions asked:

- 1) Have you ever attended a debriefing?
- 2) On a personal level, do you think it was useful to participate in the debriefing?
- 3) Do you think it was useful for the team to participate in the debriefing?
- 4) Do you think the debriefing brought the team together?
- 5) Do you think the debriefing created misunderstandings within the team?
- 6) Do you think that all team members actively participated in the debriefing?
- 7) Do you think the debriefing had an emotional impact on the participants?
- 8) Do you think that the topics covered during the debriefing were relevant?
- 9) Do you think that the topics covered during the debriefing were exhaustive?
- 10) Have both the positive and negative issues of the emergency been presented objectively?
- 11) Do you think everyone had enough time to express their opinion?
- 12) Do you think that the information material supporting the debriefing was sufficient and adequate (slides, blackboard, clinical documents relating to the emergency)?
- 13) Would you change anything about the structure of the debriefing?
- 14) Do you think live or remote debriefing are equally effective? (justify your answer)
- 15) At the end of the debriefing, did you re-evaluate/change your opinion about its usefulness/efficacy?
- 16) Would you like to do it again?
- 17) What were your expectations? (open answer)

18) What would you propose as an alternative to a debriefing? (open answer)

Statistical analysis

Numerical data are expressed as mean \pm SD (reported on the graphs illustrating the results), while ordinal data are expressed as a percentage number.

III. Results

In the six hospital departments involved, 63 healthcare workers participated. The mean age is 37.9 ± 12.2 years. Of the personnel who participated in the study, 53/63 are female (84.2%) and 10/63 are male, equal to 15.8%. The percentage of participants in the debriefing referring to the departments involved in the study is shown in Figure no 1. Most of the participating personnel are nurses 43/63 (68.2%), followed by medical and obstetric staff 8/63 equal to 12.7% and finally social health operator who participated in 4 cases (6.3%).

The work experience of the group is on average 12.1 ± 11.8 years. Of these, 25/63 (37.8%) have less than 5 years of experience. As regards the previous experience relating to the debriefing 33/63 (52.4%) had already taken part in a similar experience.

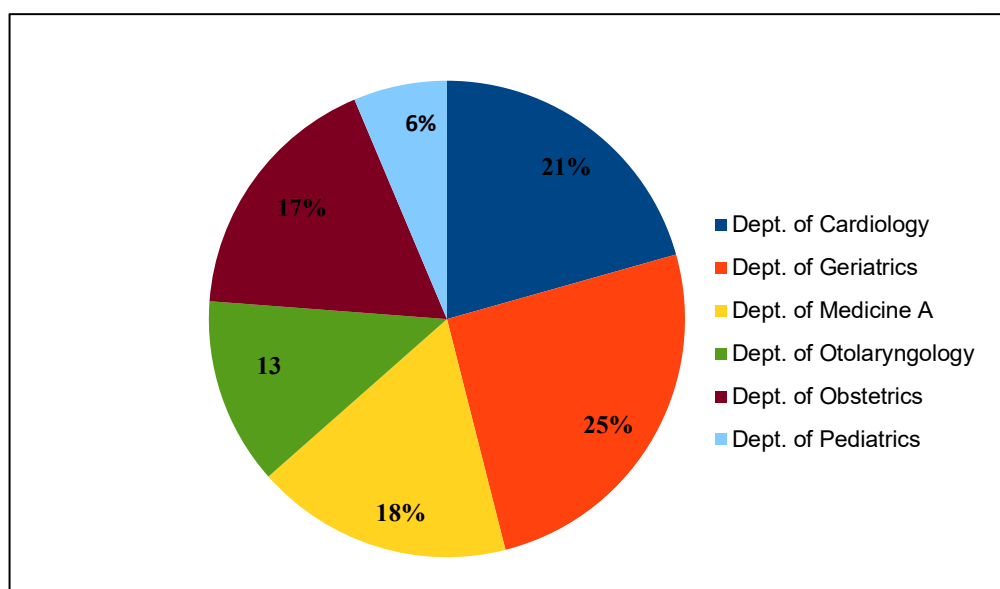


Figure no 1: Department to which the healthcare professionals involved in debriefing belong

As regards the evaluation of the debriefing by the healthcare professionals involved, the data are summarized in the Figure no 2 and Figure no 3.

In particular as regards the aspects about the management of the group and the emotional aspect, results are summarized in the graph showed in Figure no 2 while the graph showed in Figure no 3 summarizes the results related to the organization of the debriefing in terms of material available and time used for the confrontation.

IV. Discussion

Debriefing is important because in addition to acting on non-technical skills and teamwork, it is also used to refresh life-saving maneuvers and techniques.

It is widely accepted that in-depth learning of non-technical skills occurs during the debriefing following a simulated or real clinical emergency^{21,22,23,24}. However, to our knowledge, few studies indicate a correlation between teamwork and post-event debriefing^{25,26}.

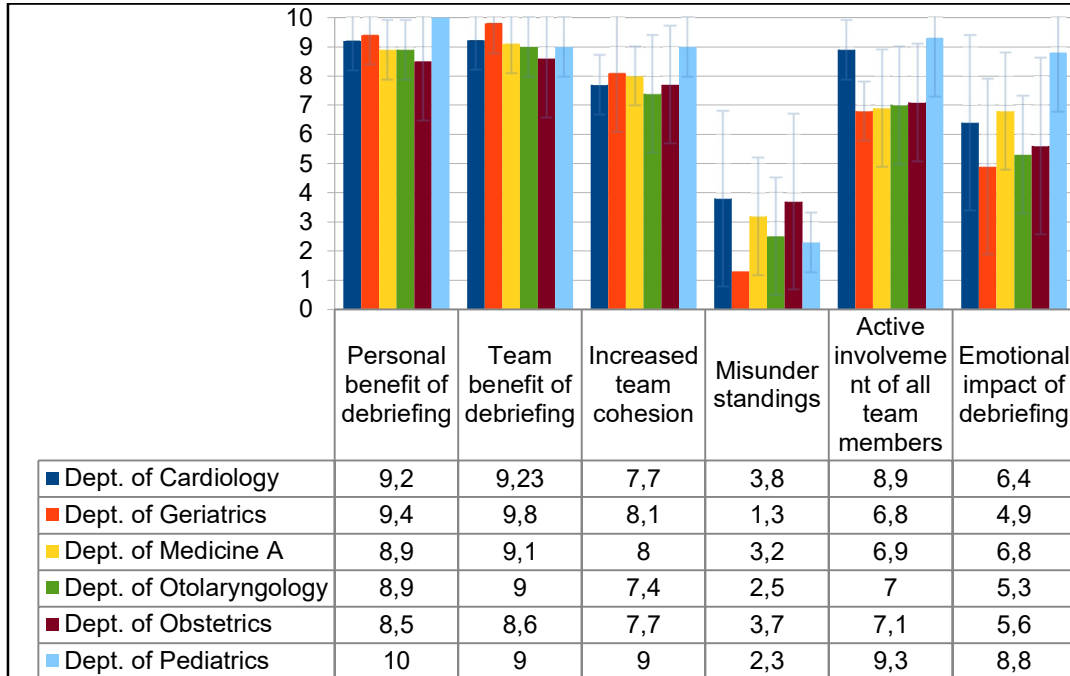


Figure no 2: Evaluation of debriefing regarding its usefulness, team management and emotional impact (mean rating in a range of 1 to 10, the SD is indicated on the histogram bar)

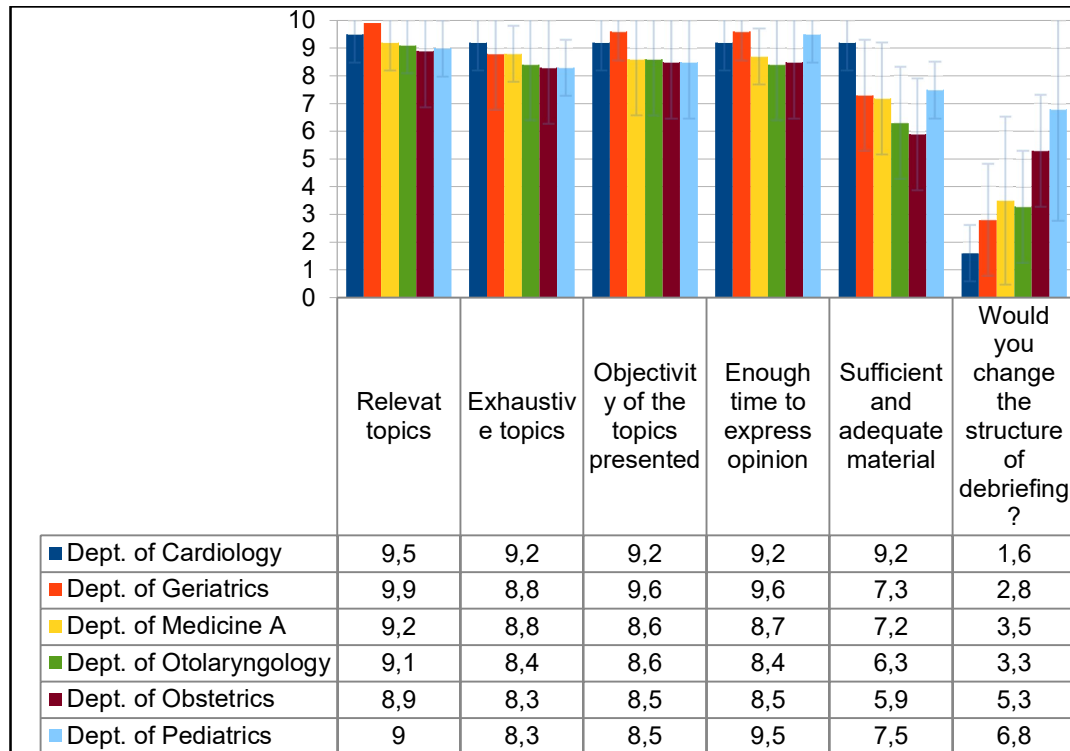


Figure no 3: Evaluation of the debriefing in relation to its organization (mean rating in a range of 1 to 10, the SD is indicated on the histogram bar)

In the research of Conoscenti et al.²⁵ a survey about the post-event debriefing and the correlation with the quality of the work of the emergency team is taken into consideration.

In the research of Lyman²⁶, carried out only on emergency room nursing staff, the survey indicated a correlation between the debriefing and the non-technical skills of the team, carried out among the nursing staff in the critical area, emergency room.

The concept of debriefing must not be seen as a moment of argument, accusation or search for a culprit, but must be a constructive moment in which the various professionals confront each other to find the strengths and weaknesses of the team .

The main purpose of the debriefing is the improvement, cohesion, knowledge of one's work team both from a technical and a non-technical point of view and the exercise and be ready to deal with an emergency scenario as best as possible .

The main objective of the research was the evaluation of the debriefings based on the questionnaire administered after the event itself. Through the results obtained it was seen that the debriefing was greatly appreciated as an experience. There was an average age range, which is around 30-40 years of the health personnel involved, with about 10-20 years of work experience, most of them female and in particular nursing personnel, who voluntarily joined. Nursing staff joined more numerously than social-health workers and medical staff.

Cold debriefings have the following advantages:

- allow for greater collection of data about the event,
- allow greater participation (not limited to the main protagonists of the emergency but to the entire working group),
- allow group members to reflect²⁷.

Furthermore, it was found that debriefing was innovative for the most critical departments, such as the Cardiology department, where discussion and teamwork are essential for the correct management of an emergency scenario. In fact, about 70% of the staff had never done a debriefing before. On the other hand, departments such as Obstetrics or Pediatrics were different, with between 50% and 100% of staff with previous debriefing experience. This last observation can also be explained by the fact that both the pediatric patient and the obstetric patient have a greater impact from a professional, emotional and medico-legal point of view. In fact, it is well known that in the literature the researches concerning post-acute event debriefing are mainly carried out in the Pediatrics and Obstetrics departments. Indeed, the literature indicates that acute events in the Pediatrics and Obstetrics departments are among the first five events requiring post-emergency debriefing²⁹.

Tan's research²⁸ highlighted the need in the anesthesiological field of post-event debriefing for operating room emergencies, especially in Pediatrics and Obstetrics departments. The study participants highlighted how there was a need for debriefing to feel supported by the team to deal with emergencies.

From the results of the questionnaires, it can be seen that the health personnel rated the "personal benefit" and the "team benefit" of the debriefing with a high score; the understanding of the debriefing was also rated well (few misunderstandings by healthcare professionals) and the emotional impact was considered relevant. Misunderstandings during the debriefing, albeit with a low average value, were more present in the Cardiology and Obstetrics departments. In this regard, it should be noted that Cardiology was the department with staff of the highest average age and experience compared to the other departments. Instead, as regards the emotional impact experienced during the debriefing, it was more highlighted in the Pediatrics department. This data could demonstrate that dealing with emergency scenarios involving pediatric patients can create a significant emotional impact on healthcare personnel. This result highlights one of the important aspects of debriefing which consists in being able to bring out and externalize the emotional component of the team.

With regard to participation in the debriefings, over 60% of the health personnel involved were nursing personnel, even if not in critical areas. This figure is far above what was reported in a survey concerning post trauma debriefing carried out by Berg et al.²⁹. The authors highlighted a participation of nurses around 24%. The participation of other professional figures was different. In particular, the frequency with regard to medical personnel was on average very low (about 13%). This datum is highly variable because in some debriefings the doctor was not present (Cardiology and Otorhinolaryngology departments), while in other departments (Pediatrics and Obstetrics) the percentage was very high (50% and 18% respectively).

Equally important is the participation of other professional figures such as midwives and social-health workers. In the Obstetrics and Otorhinolaryngology departments, the participation of social-health workers was 10% and 25% respectively. These data indicate that the involvement of all personnel who intervene in emergencies is increasingly important. Although the professional involvement related to one's role is different, the emotional involvement is not different. In fact, in a moment of emergency, all professional figures are involved. This confirms what is indicated in the research, a sort of "guide" of the debriefing, by Kessler et al.³⁰. In it, the authors propose that the debriefing, considered in a critical area such as the Emergency Room, be extended to all the professional figures that make up the emergency team, inviting, if possible, all staff as long as they are emotionally able to participate.

Debriefing may seem like an isolated moment of discussion to be used only acutely after the emergency, however it can be part of a team's growth journey to improve teamwork.

V. Conclusion

Cold debriefing, i.e. carried out not immediately after the emergency, but after a time interval of a few days, is a moment considered very important and constructive by healthcare professionals. In fact, the data of the research carried out shows how it allows healthcare professionals to improve team cohesion, reduce the post-intervention emotional impact (especially in the Department of Pediatrics). In some realities, where the staff is younger and less experienced, there is a greater openness to debriefing which reduces inter-individual conflicts..

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