

# PSYCHOLOGICAL IMPACT OF END OF LIFE SITUATIONS IN PRE-HOSPITAL EMERGENCY MEDICINE ON NURSES AND DOCTORS OF THE FIRE BRIGADE OF PARIS

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**Key words:** emergency medicine, end of life, psychological impact

## ABSTRACT

**Introduction:** The Leonetti law draws the legislative framework for the medical handling of end of life cases. The aim of this work was to assess the knowledge of the various notions pertaining to this law and to measure the rate of exposure to such cases and their impact on nurses and doctors of Fire Brigade of Paris (Brigade de sapeurs-pompiers de Paris - BSPP) operating in pre-hospital emergency medicine.

**Materials and Methods:** An anonymous questionnaire was designed and shared with medical and paramedical staff of a pre-hospital emergency medicine department in order to explore the exposure of the staff to end of life situations, their impact on them and the training received or desired to handle such cases.

**Results:** From 01/01/2009 to 01/04/2009, 36 questionnaires (72% exhaustiveness) were collected and analyzed. The mean age of the respondents was  $36 \pm 6$  years and 86% of them were men. The mean duration of practice at the pre-hospital emergency medicine departments was  $8 \pm 6$  years. Results have shown that during their clinical practice, 94% of subjects had already been exposed to violent death and 97% to end of life care. Eighty-six percent of subjects reported discouragement due to end of life care and only 18% due to violent death. Twenty-five percent reported a professional impact and/or extraprofessional impact. Seventy-five percent declared the need to talk about these situations and 88% were able to do so with members of the pre hospital medical team who were present during the intervention or other medical colleagues. Seventy-five percent declared to know the concept of "trusted person" whilst 47% only declared to know the concept of "advance directives". Eighty three percent thought that the concept of Trusted Person should be taken into consideration in pre-hospital Emergency medicine versus 69% who thought that "advance directives" should be taken into consideration in pre-hospital Emergency medicine. Seventy-two percent declared not having received any training and wished to be better prepared for the management of such situations. An initial and/or continuous training was viewed as necessary in the form of "seminars" or "Education from personal experiences".

**Discussion:** "End of Life" situations are inevitable in pre hospital emergency medicine and bear a significant psychological impact. A good knowledge of the "trusted person" and "advance directives" concepts could facilitate the handling of such situations. The training that is most preferred ought to be integrated in every pre-hospital emergency medicine institution. This topic warrants a larger survey of a larger number of staff.

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## INTRODUCTION

The End of life concept has been widely debated in the last few years in France and around the world. This issue remains central and involves health professionals mainly physicians as well as the society through philosophers, politicians, patients associations, etc.). This has given way to a legislative adaptation and the Leonetti Law of April 22, 2005 is one of its most known illustrations [1]. This law includes a definition and a designation of a “trusted person”, “advance directives” and collegiality in case of an end of life decision. This societal and legal evolution required the inclusion of these concepts in the initial medical training. With the reform of the second cycle of medical school in France in 2001 [2], the training on pain treatment and palliative care (module 6 of the second cycle of medical school “pain-palliative care-support” items 1,7,69,141 and 70 published in the official gazette of August 31, 2001 [2]). The advance directives are the person’s desires regarding his end of life and more specifically the limitation or the halt of the treatment [3]. Every adult has the right to assign in writing a “trusted person” who can be a family member, a relative or even the treating physician. This person has to be consulted when the patient is in a state that prevents him from expressing his will or receiving the information needed to this end [3]. The Advance Directives and Trusted person are revocable at any moment in a patient’s life [3].

Currently, the literature review does not show any study that assesses the end of life concepts, levels of exposure, or psychological impact of such cases on doctors and nurses practicing in pre-hospital emergency medicine. The main objective of our study was to assess the impact of end of life situations on doctors and nurses of the Fire Brigade of Paris (Brigade de sapeurs-pompiers de Paris - BSPP). Secondary objectives were to assess the knowledge about end of life concepts as well as the type of training provided and desired to manage such cases.

## CONTEXT

The first publications on end of life and its management date back to 1986 [4]. Many reports [5-7] followed and led to the drafting of end of life laws [8] that facilitated the development of palliative care [9;10]. In parallel, in 2001 a French multicentric study revealed that on one hand that a decision on the Limitation and Halt of Active Therapeutic treatment touches around 10% of adult patients admitted in the reanimation service and on the other hand that a Limitation and Halt of Active Therapeutic treatment (LATA - Limitations et arrêts des thérapeutiques actives) was implicated in more than 50% of adult deaths in reanimation services [11;12]. Later on, and upon the request of the Minister of Health [13], Hennezel [14] reported a persisting confusion between three end of life practices: the Limitation and Halt of Active Therapeutic treatment, palliative care and the deliberate act of causing death. On the other hand, this report revealed that exposure to end of life is quite frequent especially in intensive care units. On the basis of this report and other studies on LATA, the French intensive care medical societies (Société Française d’Anesthésie et de Réanimation; Société de Réanimation de Langue Française - SRLF) proposed some protocols for the handling of end of life cases in reanimation units [15;16].

## MATERIALS AND METHODS

We conducted a survey with a multidisciplinary team of doctors and nurses of the BSPP based on an anonymous questionnaire (attached as annex) that includes 18 questions of single or multiple choice and a last neutral and open question. Questions focused on the exposure to end of life situations and their impact in pre-hospital emergency medicine (mobile intensive care unit - MICU), the knowledge of end of life concepts as well as the training received or desired. Following an intrinsic validation (test conducted with three doctors and three nurses) of the questionnaire, it was distributed to all the nurses and doctors of the BSPP. The Internal Scientific Board approved the study and all participants gave their oral consent.

The data was collected via Microsoft Excel®. Qualitative variables were expressed in percentages whilst quantitative variables were expressed by mean, standard deviation or median [interquartile range].

## RESULTS

From 1<sup>st</sup> january to 1<sup>st</sup> april 2009, 36 questionnaires were collected and analyzed i.e an exhaustiveness rate of 72%. General characteristics of respondents were a mean age of 36 [33-40] with 86% of men.

### Exposure to end of life situations and impact:

- Exposure to end of life situations was very frequent and the quasi-totality of persons have been at least exposed once to an end of life situation with one out of every two persons having been confronted more than 50 times to a situation of violent death (Figure 1).

- Impact of end of life situations: The duration of discouragement in case of support to end of life at home was established at one hour for 25% and more than one hour for 9% and not known for 66%. Amongst disorders felt, one out of four felt anxiety and 13% sleeping disorder (Figure 2).

Expression of the impact took place towards other team members present during the intervention in 35%, with other medical colleagues in 25%, with friends in 17% and family members in 15%. Seventy percent felt the need to talk about the intervention, 88% managed to do it and 76% out of those were able to do it immediately (Figure 3). Eighty percent of them said that their perception of end of life changed with their professional practice.

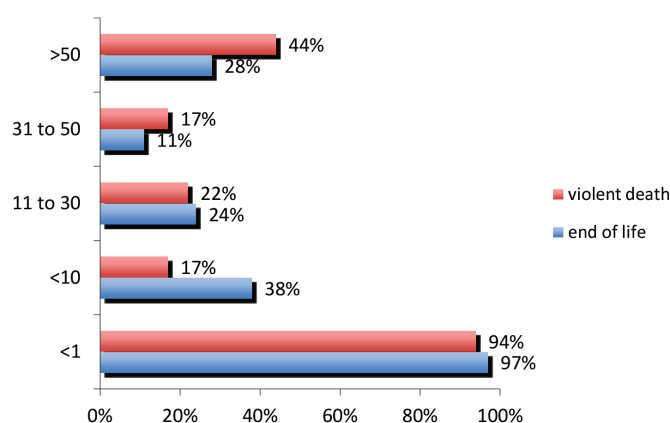


Figure 1: Exposure to end of life situations

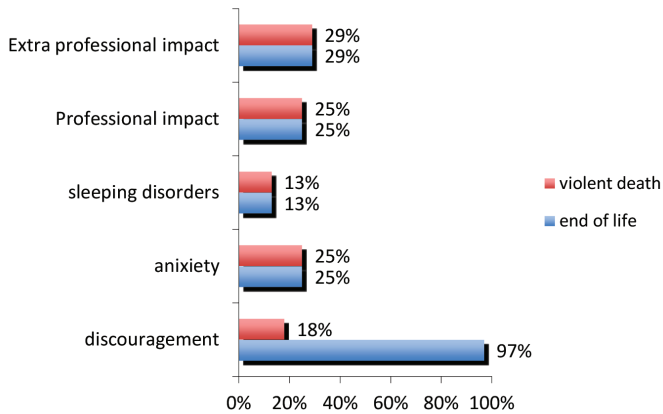


Figure 2: Impact of end of life situations

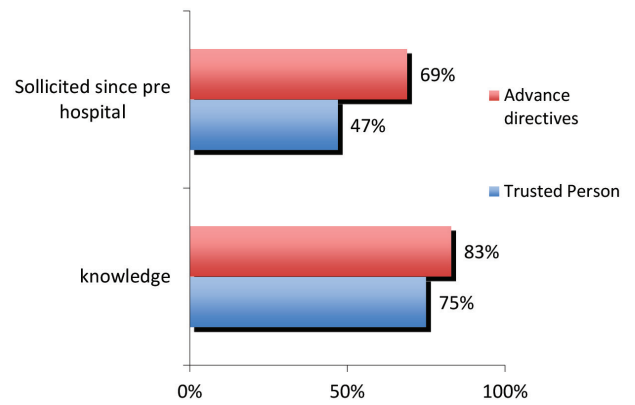


Figure 4: Advance directives and Trusted Person

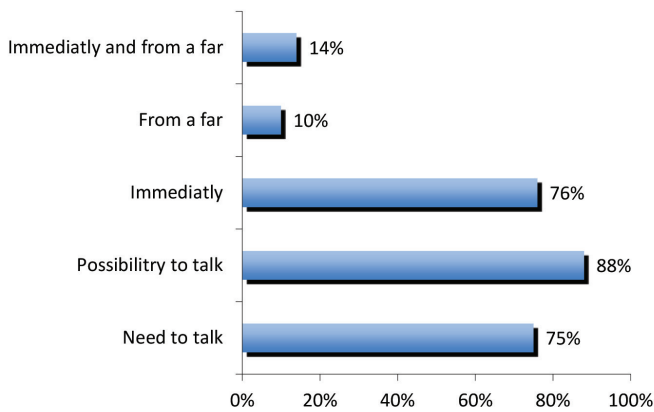


Figure 3: Expression of the impact took place

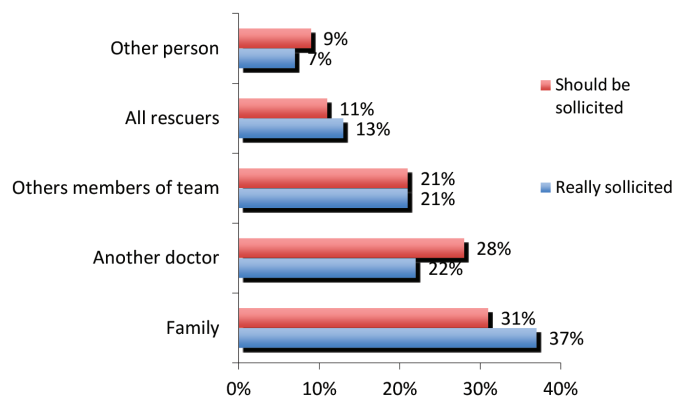


Figure 5: Decision-making criteria in end of life

**Knowledge of end of life concepts:**

- Advance directives and Trusted Person: 75% know the concept of “trusted person” and around 50% know the concept of “advance directive”. Eighty-three percent thought that the trusted person should be solicited in the framework of pre-hospital emergency medicine whilst 69% think that advance directives have to be taken into consideration in the framework of pre-hospital emergency medicine (Figure 4).

- Decision-making criteria in end of life: 94% believe that support to a patient in end of life is not the sole decision of the doctor in the reanimation ambulance. Forty-four percent believe that the limitation of care should only be restricted to medical and scientific criteria.

The most frequently found criteria are the content of the medical file in 36%, the patient’s environment in 38% and the request made by the close relatives in 26% (Figure 5).

Training on handling end of life situations: 28% had received training on handling such situations. Seventy percent would like to have training on the handling of such situations and 75% believe that training on handling such cases is necessary (Figure 6).

The type of training desired to learn how to handle such situations is through “seminars” for 32% and “Education from personal experiences” for 31%, and “continuous training” for 28% and lectures for 8% (Figure 7).

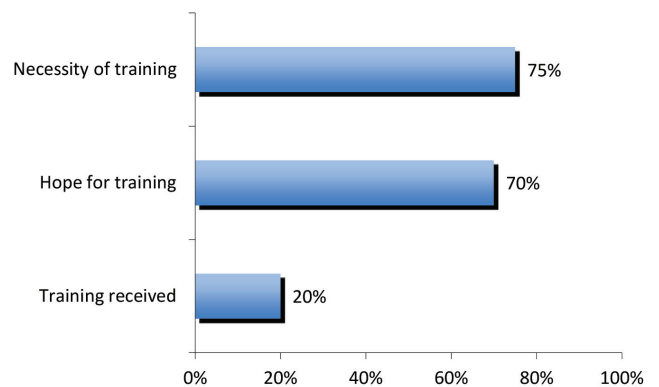


Figure 6: Training on handling end of life situations

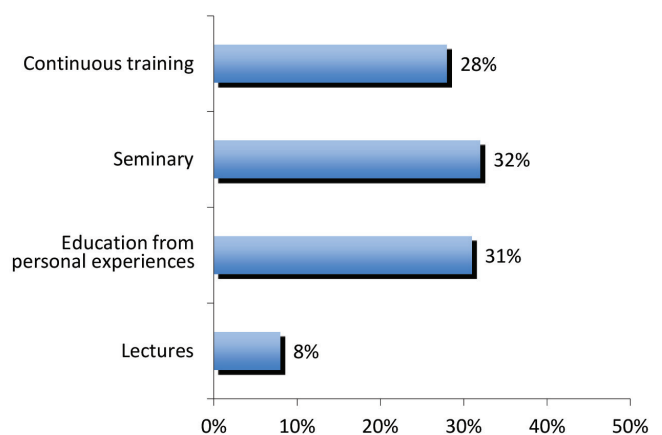


Figure 7: Type of training desired to learn how to handle such situations

## DISCUSSION

### General data

Our survey revealed an exposure rate to end of life situations in pre-hospital emergency medicine with a significant psychological impact. On the other hand, the little training received is in contrast with the huge desire for initial and continuous training. End of life concepts are relatively well known. Participation rate to this study is high close to 75% and this is probably a reflection of the interest raised by the topic of the study that remains an unknown field considered as “taboo” in pre-hospital emergency medicine.

The high percentage of male respondents (86%) has to do with the specific structure of BSPP (that is a male dominated professional field) contrary to the medical and paramedical professions where females dominate at all medical studies' levels from the first year of the first cycle. Current data show that 75% of persons die in a care institution [13]. Seventy percent of deaths in France occur in a hospital or care institution and 5% of them are persons who arrive in a state of apparent death to the Emergency Department (ED); 35% of deaths in ED are due to a therapeutic abstention with variable decision modalities and 57% to a decision of limitation or halt of active care [13].

### Knowledge of end of life concepts

The main end of life concepts seemed to be well understood by the respondents 10 years after their teaching that became compulsory during their initial medical studies or during the continuous medical training [16]. The fact that the concept of “advance directives” is less known than the concept of “trusted person”, is certainly linked to the fact that it is less accessible and therefore less used in pre-hospital emergency medicine. Another explanation is probably that the concept of advance directives is more recent (decree no 2006-119 implementing the law of 22 April 2005 (art. L. 1111-11 CSP) [1] whilst the “trusted person” concept was defined in the law dated 4 march 2002 [17]. However, these concepts if they are available should be integrated in the decision making process in end of life situations at home although there is no text of law legalizing their use in pre-hospital emergency medicine.

Since 2008, a hospital programme of clinical research under the direction of Ferrand aims at evaluating via a random multicentric controlled test, the impact of a computerized tool that helps with the thinking process when it comes to the decision of limiting or halting therapeutic engagements for a patient in surgical reanimation (LATAREA 3 study). This includes concepts related to end of life more specifically the concepts of “trusted person” and “advance directives”. The possibility of receiving this information by simply making a telephone call to the hospital center of the patient may be of great support to the pre-hospital emergency medicine.

The concept of collegiality during end of life situations at home and violent death is acquired for the quasi totality of the respondents (94%) with a clear predominance in the intention and reality for the relatives and/or another doctor if present. This is certainly linked to the initial teaching or to the continuous medical training in conformity with the proposals included in the report of Hennezel [13] as well as in the recommendations of some scientific societies namely reanimation societies [14;15;18] pertaining to pre-hospital emergency medicine.

### Impact of end of life situations

Exposure to end of life situations is significant with more than 90% of the respondents who have already been confronted to at least once to a situation of end of life support at home or violent death during their professional practice. The impact of end of life situations is psychologically significant as more than 80% of the respondents have felt a discouragement feeling during support to an end of life case at home compared to 20% who have had this feeling during a case of violent death. Moreover, an alteration of the temper or of the professional and extra professional behavior has been reported in 25 to 30% of the cases.

The suffering of medical and paramedical staff has been studied since 20 years; the concept of “burn-out” reflects the suffering of care providers who are permanently to death. The American study of Redinbaugh et al. [19] in 2003 shows that for 70% of doctors confronted with death, the fact of having supported well a dying patient until the end is associated with a feeling of satisfaction for having accomplished a duty. Thirty one percent of doctors say that they have felt great emotions at the moment of the death and 23% were extremely affected by the death of their patient. All have felt in the hours following the death a feeling of sadness when thinking about the patient (88%) and even somehow dazed (45%). This survey was the first to show that all health professionals (including doctors) were affected by the death of a patient. Other studies that followed have confirmed this for doctors who are frequently exposed to death [20-22]. However, no single study has explored to date the concept of burn-out in the context of pre-hospital emergency medicine. The burn-out syndrom [23] affecting not only care providers practicing in the field of reanimation [24;25] is characterized by an emotional burn-out a dehumanization of the relation with the other and a loss of the feeling of self accomplishment at work. The human attachment to the deceased, the number of limitation and/or halt of active therapeutic treatment in addition to the absence of communication within the care providers' team are all risk factors that lead to this burn-out [26].

In fact, the incidence of end of life decisions seems to have increased during the last decade especially in the Anglo-Saxon countries [26] as proven in the North America [26]. Collegiality including the medical and paramedical care team in charge of the patient in the decision pertaining to end of life may represent one of the protective elements against the burn-out syndrome at the hospital. Risk factors and the protection “means” of the pre-hospital emergency medicine professionals have not been studied to this date nor have they been identified. Collegiality and the support in case of end of life decision have been mentioned as potential protective means against the burn-out syndrome at hospital.

The recent SRLF recommendations [18] reminded of some statements concerning health professionals in practice or being trained where they mentioned that “a specific training for medical and paramedical staff is necessary within the framework of an initial training but most importantly of a continuous training”. This development highlights the acknowledgment of the impact that such situations have on all the members of the team in charge of the patient. Even though such recommendations concern mainly the care structures' staff (hospitals and clinics) they seem to be also taken into consideration in the exercise of the

pre-hospital emergency medicine. No prior study has explored with which interlocutor the doctors and nurses practicing in pre-hospital emergency medicine have expressed their feelings when it comes to situations of support to end of life cases at home or violent death. In our study, privileged interlocutors were members of the team present during the intervention in 35%, other members of the medical or paramedical team in 25% and extra professional friends or family members in 15%.

### Current and desired training

Our survey revealed the weakness of the current training for this type of situations (28%) whilst the desire for training is very high (70%) with a form of teaching based on verbal exchange (learning based on personal experiences, post university teaching and seminars). Our data reflect indirectly the persistence of heterogeneous practices in the end of life situations. Marie de Hennezel mentioned it in 2003 in a report [13] on hospital practices "facing this suffering, the practices remain heterogeneous". To date, not a single study of this type has established in a certain manner this heterogeneity in the context of pre-hospital emergency medicine. However, it seems obvious in view of the heterogeneity of training for practitioners on one hand, and the specificity of each case and each situation on the other hand.

In the field of hospital practice, heterogeneity of practices [13] is reflected in disparities in the teaching of end of life concepts. On the other hand, the little baseline available in this field explains to a certain extent the loneliness of care providers in the face of cases of end of life that they do not know how to manage whether at hospital or in pre-hospital emergency medicine circles. Mattei says that "the relief and support to persons in end of life require

a good deal of listening and an evaluation of the situations on a case by case basis in consultation with the patient his entourage and the whole team. Medical and caregivers teams at the hospital or elsewhere need to be trained and supported to handle this difficult task" [27].

It would be also advisable to implement this attitude in the framework of pre-hospital emergency medicine. The best training form to learn how to "manage" these situations is not known and needs to be evaluated. In our study, the desired for of training is mainly based on verbal exchange (learning based on personal experiences, post university and seminars during studies). This type of training derogates from other teachings of scientific medicine that is in general based on lecturing.

### CONCLUSION

This study underscores the fact that end of life situations are frequently encountered by the medical teams during their daily practice. This exposure is at the origin of a moderate professional and extra professional impact that is mitigated by exchanges that take place either immediately during the intervention with other members of the team on one hand or with other health professionals on the other hand. End of life concepts are relatively well known and have to be solicited if needed in the context of pre-hospital emergency medicine. The decision to support a patient in end of life in a pre-hospital context relies on a collegial discussion with the involvement of family, another doctor and other members of the team during the intervention. For the management of those "end of life" cases, training is needed and highly desirable especially in the form of seminars and learning from personal experiences.

## ANNEX: STUDY QUESTIONNAIRE

### Questionnaire

Age: ..... years

Sex:  female  male

Statute:  Military  Employed  Reservist

Seniority: ..... years of service.

Seniority in the exercise of your pre-hospital profession: ..... years

#### 1. Have you ever been confronted to a situation that required support to a patient in end of life at home (example: terminal stage cancer patient)?

yes  no

1. a. Has this situation generated for you a feeling of discouragement?

yes  no

1. b. How long did it last?: ..... minutes, hours or days (strike the irrelevant mention)

1. c. How did it translate?

anxiety

sleeping disorders

treatment by medication

other: .....

1. d. Has any of these situations resulted according to you to a change in your character and/or behaviour in subsequent interventions?

yes  no

1. e. after this/these situations did you consider changing your work?

yes  no

1. f. Do you think that this project of changing your work is secondary in view of this/these situations?  
 yes     no
1. g. Has any of these situations generated in your opinion changes in your character and/or in your daily extra professional behaviour?  
 yes     no
- 2. have you ever been confronted to a situation of end of life with violent death (example: autolysis by firearm, defenestration, hanging)?**  
 yes     no
2. a. Has this situation generated for you a feeling of discouragement?  
 yes     no
2. b. How long did it last?: ..... minutes, hours or days (strike the irrelevant mention)
2. c. How did it translate?  
 anxiety  
 sleeping disorders  
 treatment by medication  
 other:: .....
2. d. Has any of these situations resulted according to you to a change in your character and/or behaviour in subsequent interventions?  
 yes     no
2. e. after this/these situations did you consider changing your work?  
 yes     no
2. f. Do you think that this project of changing your work is secondary in view of this/these situations?  
 yes     no
2. g. Has any of these situations generated in your opinion changes in your character and/or in your daily extra professional behaviour?  
 yes     no
- 3. How many times in the course of your professional life have you been confronted to end of life situations with:**  
 confort care:     <10     11 à 30     30 à 50     >50  
 violent death:     <10     11 à 30     30 à 50     >50
- 4. Have you felt the need to speak about your feelings towards such situations?**  
 yes     no
- 5. Were you able to express your feelings towards such situations?**  
 yes     no
5. a. Has this need been felt with regards to the first intervention?  
 immediately     at a distance
5. b. With whom? How? (possibility to tick one or more choices)  
 family  
 friend/s  
 other members of the MICU team following the intervention  
 discussion with one or more colleague from the medical and/or paramedical team  
 others (specify): .....
5. c. with whom would you have liked to share this situation? (possibility to tick one or more choices)  
 all the members of the MICU team present during the intervention  
 other persons from the medical service who were not present during the intervention  
 family members  
 friends from the medical and/or paramedical field  
 friends from outside the medical and/or paramedical field  
 others → specify: .....
5. d. Why?  
 .....
- 6. Did your perception of “end of lif” change in the course of your practice?**  
 yes     no
- 7. Do you think that the decision to support a patient in end of life situation at home is the sole responsibility of the MICU doctor?**  
 yes     no

7. a. Who should be solicited (within the limits of what is possible) (one or more answers possible)?

- another doctor (ex: treating doctor) (if present on site)
- other team members of the MICU
- all the team of the BSPP present during the intervention
- family and/or close relatives of the patient (if present on site)
- others (specify): .....

**8. Based on your personal experience in case of support to a patient in end of life at home who are the solicited persons (One or more answers possible)?**

- nobody (the MICU doctor decides alone without any consultation)
- another doctor present on site (ex: treating doctor)
- the other members of the MICU team
- the family and/or patient close relatives
- other (specify): .....

**9. Do you think that a decision to limit care in pre-hospital emergency medicine should be based on medical scientific criteria?**

- yes
- no

**10. What other criteria are the most pertinent in your opinion?**

- Content of the patient's medical file (if available on the intervention site)
- Patient's environment (medical bed, patient visibly bedridden: diapers, multiple handicap, etc.)
- Request by the close relatives of the patient
- Other (specify): .....

**11. Do you know what the concept of "advance directives" is?**

- yes
- no

**12. Do you think that "advance directives" have to be taken into account in pre-hospital emergency medicine?**

- yes
- no

**13. Do you know what the concept of "trusted person" is?**

- yes
- no

**14. Do you think that the "trusted person" should be solicited when present on site in pre-hospital emergency medicine?**

- yes
- no

**15. During your medical studies have you received a information and/or a training on the management of this type of situations?**

- yes
- no

**16. Would you have preferred to be prepared for this type of situation?**

- yes
- no
- do not know

**17. Does an information and/or initial training during medical studies seem necessary to face such situations?**

- certainly
- maybe
- do not think so
- certainly not

**18. What type of training seems the most appropriate to learn how to manage such situations? (One or more answers possible)**

- lectures during medical studies
- learning from "personal experiences"
- seminar during medical studies
- seminar during continuous medical training
- other (specify): .....

**19. Free comment:**

.....

Thank you for your participation

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