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REVISIONES

Analysis of the programs for the presence of family members in the extrahospital cardiorrespiratory stop in adult patient

Análisis de los programas para la presencia de familiares en la parada cardiorrespiratoria extrahospitalaria en paciente adulto

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ABSTRACT:

Objective: Explore programs aimed at the participation of family members in situations of CRP in adults in the out-of-hospital setting.
Method: Narrative review of the scientific literature, in primary databases (Scielo, PubMed, Cuiden and Cochrane Plus and CINAHL), using DeCS and MeSH structured language, from 2005 to 2020, in Spanish and English. 23 studies are obtained.
Results: Studies show that mourning for family members of a cardiorespiratory arrest in the out-of-hospital setting is less traumatic if they are allowed to be present. Staying with the victim must be ensured unless the professional considers that it is harmful. The advantages of the presence of family members are as much for the family member as for the healthcare team. Despite the existence of a social and ethical need in accordance with the principle of patient autonomy for the implementation of these programs, they hardly exist and this is usually due to the resistance generated by the professionals or managers themselves.
Conclusions: In the case of cardiorespiratory arrest in adults in the out-of-hospital setting, the main international scientific societies recommend the implementation of programs for the presence of family members, which makes it a necessity. The scientific literature demonstrates more advantages than disadvantages, fundamentally in terms of better grief in family members and greater satisfaction and less possibility of legal claims in health professionals, promoting the humanization of care that would translate into lower healthcare costs in the prevalence of grief pathological.

Keywords: out-of-Hospital cardiac arrest; cardiopulmonary resuscitation; family.

RESUMEN:

Objetivo: Explorar los programas orientados a la participación de familiares en situaciones de PCR en adultos en el medio extrahospitalario.
Método: Revisión narrativa de la literatura científica, en bases de datos primarias (Scielo, PubMed, Cuiden y Cochrane Plus y CINAHL), con empleo de lenguaje estructurado DeCS y MeSH, de 2005 a 2020, en español e inglés. Se obtienen 23 estudios.

Resultados: Los estudios muestran que el duelo de los familiares de una parada cardiorrespiratoria en el medio extrahospitalario, es menos traumática si se les permite estar presentes. Permanecer junto a la víctima debe asegurarse salvo que el profesional considere que es perjudicial. Las ventajas de la presencia de familiares son tanto para el familiar como para el equipo asistencial. A pesar de existir una necesidad social y ética de acuerdo con el principio de autonomía del paciente para la implementación de estos programas apenas existen y esto suele ser debido a las resistencias generadas por los propios profesionales o los gestores.
Conclusiones: Las principales sociedades científicas internacionales recomiendan en caso de PCR en el adulto en el medio extrahospitalario, la implantación de programas para la presencia de familiares, lo que hace que se convierta en una necesidad. La literatura científica demuestra más ventajas que inconvenientes, fundamentalmente en cuanto a un mejor duelo en familiares y mayor satisfacción y menor posibilidad de demandas jurídicas en los sanitarios, promoción de la humanización de los cuidados que se traduciría en un gasto asistencial menor en prevalencia de duelo patológico.

Palabras clave: paro cardiaco extrahospitalario; reanimación cardiopulmonar; familia.

INTRODUCTION

Cardiorespiratory arrest (CRA) involves the sudden and unexpected cessation of blood circulation and spontaneous breathing and, therefore, the cessation of oxygen supply to vital organs, with the brain being particularly affected [1-3]. When the brain stops receiving oxygen for 6-8 minutes its cells die, creating an irreversible situation.

In Europe, cardiovascular diseases account for around 40% of all deaths in children under 75. Sudden cardiac arrest is responsible for more than 60% of adult deaths from coronary disease [1,2,4]. Survival in Europe is about 10% at 30 days [5,6].

The idea of offering relatives their presence in the event of the need for resuscitation manoeuvres in the case of CRA is not new, in fact it has been around for more than 20 years [7].

The European Resuscitation Council (ERC), as an expert international organisation in the field of resuscitation, recommends the presence of family members in RCP and warns in its latest recommendations of 2015 that only half of European countries allow the presence of family members in these situations [8]. Also the American Heart Association (AHA), another important international association in the field of resuscitation, in its latest recommendations of 2015, insists on allowing the presence of relatives [9].

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In general, the scientific literature considers that it is a fundamental right to be able to accompany a family member until the end of their life [2,7,8,10]. In Spain, Law 41/2002, of 14th November, which is the basic law regulating patient autonomy and rights and obligations in terms of clinical information and documentation, emphasises the right to patient autonomy and decision making by means of the document of prior instructions, which must be taken into account by healthcare professionals in these circumstances.

However, in our country we do not have regulations regarding the presence of family members in the case of CRP [11].

A study was carried out that explored programmes oriented towards the participation of relatives in situations of CRA in adults in out-of-hospital settings in order to specify what the mourning of relatives of those who have died from CRA is like, in which cases the presence of relatives should be proposed, what difficulties exist for the implementation of these programmes, what advantages their development has, what are the barriers that professionals contribute to the implementation of these programmes and why these barriers arise.

METHOD

A narrative review of the scientific literature is carried out. The following databases are consulted: Scielo, PubMed, Cuiden and Cochrane Plus and CINAHL. Articles are selected that are 5 years old, in Spanish or English. All those that refer to cardiopulmonary resuscitation (CPR) programmes in the adult population in the out-of-hospital environment are included in the aspects defined in the objective of the study and which define the categories of analysis (The mourning of relatives of people who have died by CPR; Situations in which the presence of relatives can be proposed; Difficulties which exist for the implementation of these programmes; Advantages of programmes with the presence of relatives in out-of-hospital CRA; Barriers which professionals contribute to the implementation of the programmes and Motivation of professionals to present barriers to the programmes); and take into account the presence of relatives. Articles that do not meet the inclusion criteria and grey literature are excluded.

Table 1: Search strategy

Database	Search string	Limits	Papers found	Selected papers
Scielo	paro cardiaco extrahospitalario AND reanimación caridopulmonar paro cardiaco extrahospitalario AND familia reanimación cardiopulmonar AND familia	Years: 5 last few years Idioma: English and Spanish	17	3
PudMed	“out-of hospital cardiac arrest AND cardiopulmonary resuscitation AND family”	Years: 5 last few years Idioma: English and Spanish	99	16
Cuiden	paro cardiaco extrahospitalario AND reanimación caridopulmonar paro cardiaco extrahospitalario AND familia reanimación cardiopulmonar AND familia	Years: 5 last few years Idioma: English and Spanish	16	3
Cochrane Plus	out-of hospital cardiac arrest AND cardiopulmonary resuscitation out-of hospital cardiac arrest AND family	Years: 5 last few years Idioma: English and Spanish	21	1

	cardiopulmonary resuscitation AND family			
CINAHL	paro cardiaco extrahospitalario AND reanimación caridopulmonar paro cardiaco extrahospitalario AND familia reanimación cardiopulmonar AND familia	Years: 5 last few years Idioma: English and Spanish	3	0

RESULTS

After the bibliographic search in the databases, a total of 896 articles were obtained, which were tabulated in order to be evaluated by both authors. Initially 37 of them were eliminated because they were repeated. Of the remaining 859 articles, 715 were discarded because after reading the summary they either dealt exclusively with CRA in the hospital setting (234), or they only considered CRA in the paediatric patient (460) or they did not provide data related to the objective of the study (19). Of the 144 articles that were selected, 121 were eliminated once they had been read in their entirety, for four reasons: they dealt with CPR only in hospitals (14), they dealt exclusively with CPR in paediatric victims (81), they did not provide information related to the 6 categories of analysis derived from the study objective (26). After this selective process, 23 (Table 2) are the articles finally selected for this review of the scientific literature (Figure 1).

Table 2: Characteristics of the articles included

Authors	Year of publication	Title	Design	Objective	Theme
Neumar RW, Shuster M, Callaway CW, Gent LM, Atkins DL, Bhanji F, et al[9]	2015	American Heart Association guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care.	Systematic bibliographic review	Develop recommendations on CPR	1,2.4.5
Monsieurs KG, et al[8]	2015	European Resuscitation Council Guidelines for Recomendaciones para la Resucitación 2015 del Consejo Europeo de Resucitación (ERC)	Systematic bibliographic review	Develop recommendations on CPR	1,2,3,4,6
Oczkowski SJW, Mazzetti I, Cupido C, Fox-Robichaud AE[16]	2015	Family presence during resuscitation: A Canadian Critical Care Society position paper	Systematic bibliographic review	Help doctors and institutions decide whether to incorporate the presence of family members into PCR as part of their usual clinical practice and offer strategies	1,2,3,,4,5,6
Buick JE, Ray JG, Kiss A, Morrison LJ[23]	2016	The association between neighborhood effects and out-of-hospital cardiac arrest outcomes	Cohort Study	Determine if the presence and help of neighbors improves survival in PCR	1,2,5
Brasel K,	2016	Should family presence	Clinical case	Establish a debate on	1,2,4,6

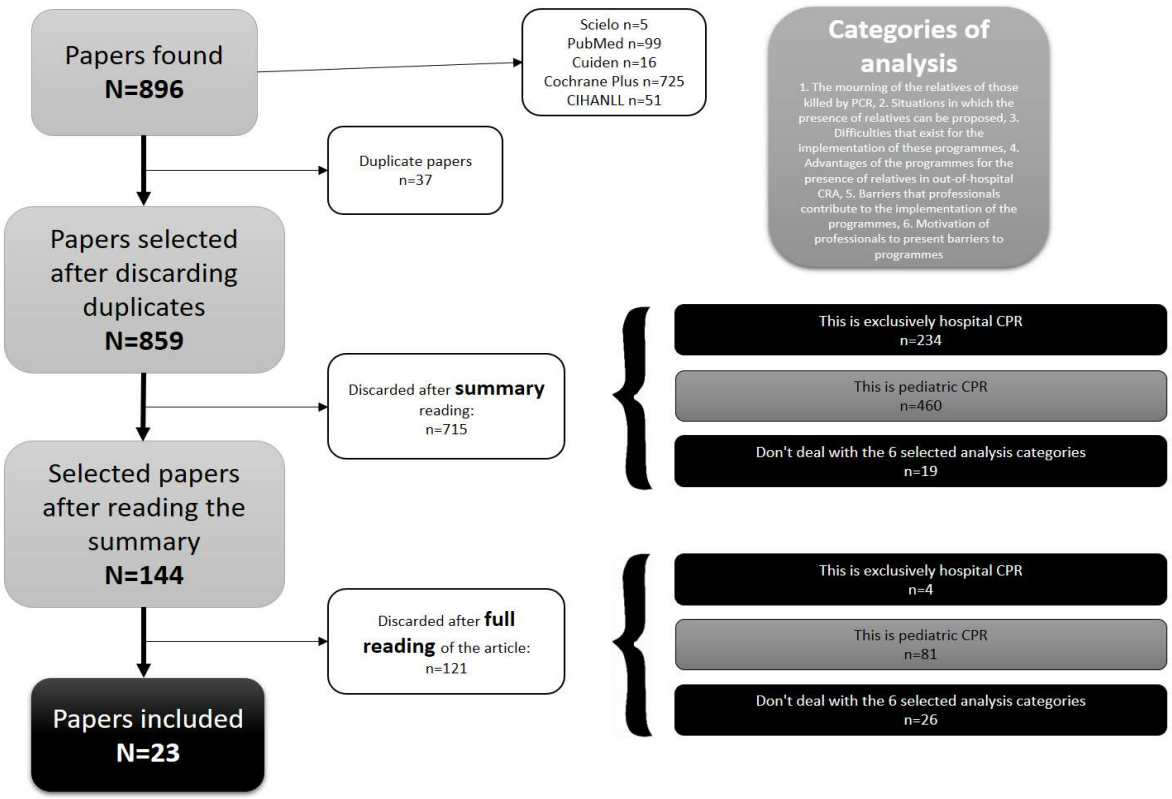
Entwistle J, Sade R[24]		be allowed during cardiopulmonary resuscitation?		the measures taken in a case of PCR witnessed by relatives	
De Stefano C, Normand D, Jabre P, Azoulay E, Kentish-Barnes N, Lapostolle F, et al[17]	2016	Family presence during resuscitation: A qualitative analysis from a national multicenter randomized clinical trial	Qualitative research	Discuss the topics of qualitative assessments that characterize the experience of family members who offer the option to observe resuscitation	1,2,4
Guzzetta C[18]	2016	Family presence during resuscitation and invasive procedures	Systematic bibliographic review	Determine levels of evidence of actions taken on a patient's relatives in PCR	1,2
Giles T, de Lacey S, Muir-Cochrane E[21]	2016	Factors influencing decision-making around family presence during resuscitation: a grounded theory study	Research qualitative constructivist of informed theory	Examine factors affecting family presence during resuscitation practices in the critical care environment	1,2,3,4,5,6
Ferrara G, Ramponi D, Cline TW[19]	2016	Evaluation of physicians' and nurses' knowledge, attitudes, and compliance with family presence during resuscitation in an emergency department setting after an educational intervention	Quasi-experimental study	Assess whether evidence-based educational intervention would increase the knowledge, attitudes, and compliance of physicians and nurses for permi	2,4,5,6
Noureddine S, Avedissian T, Isma'eel H, El Sayed MJ[12]	2016	Assessment of cardiopulmonary resuscitation practices in emergency departments for out-of-hospital cardiac arrest victims in Lebanon	Descriptive study	Explore the practices of emergency physicians related to the resuscitation of victims in out-of-hospital PCR in Lebanon	2,5
Cariou G, Pelaccia T[25]	2017	Are they trained? Prevalence, motivations and barriers to CPR training among cohabitants of patients with a coronary disease	Pre- and post-intervention quantitative study	Document the prevalence of training in appropriate saving maneuvers among heart patient cohabitants, as well as motivations or	1,2,4,5
Stassart C, Stipulante S, Zandona R, Gillet A, Ghuysen A[26]	2017	Psychological impact of out-of-hospital cardiopulmonary resuscitation (CPR) on the witness engaged in gestures of survival	Descriptive study	Investigate the presence of psychological distress and the factors influencing it, in the active practice of basic gestures of resuscitation by	1,2,4,6
Enriquez D, Mastandueno R, Flichtentrei D, Szyld E[27]	2017	Relatives' Presence During Cardiopulmonary Resuscitation	Descriptive study	Explore the question of whether or not to allow the family to be present during resuscitation	1,2,3,4,5
Kim H, Kim	2017	The e_ectiveness of	Study	Investigate the effect of	2,3,4,5,6

H-J, Suh EE[13]		patient-centered education for family caregivers of patients with cardiovascular diseases	cases-control	patient-centered CPR on family caregivers of patients with cardiovascular disease	
Fernández-Aed I, Pérez-Urdiales I, Unanue-Arza S, García-Azpiazu Z, Ballesteros-Peña S[32]	2017	Estudio cualitativo sobre las experiencias y emociones de los técnicos y enfermeras de emergencias extrahospitalarias tras la realización de maniobras de reanimación cardiopulmonar con resultado de muerte	Research phenomenological qualitative	Explore nurses' experiences, emotions and coping strategiesand out-of-hospital emergency technicians following resuscitation maneuvers resulting in death	3,5,6
Yamashita A, Maeda T, Myojo Y, Wato Y, Ohta K, Inaba H[14]	2018	Temporal variations in dispatcher-assisted and bystander-initiated resuscitation efforts	Descriptive study	Investigate variations in PCR assisted resuscitation efforts	3
Tíscar-González V, Gastaldo D, Moreno-Casbas MT, Peter E, Rodriguez-Molinuevo A, Gea-Sánchez M[28]	2019	Presence of relatives during cardiopulmonary resuscitation: Perspectives of health professionals, patients and family in the Basque Country	Descriptive study	Increase the knowledge and management of PCR with family members	1,2,4,5
Barreto MS, Peruzzo HE, Garcia-Vivar C, Marcon SS[20]	2019	Family presence during cardiopulmonary resuscitation and invasive procedures: a meta-synthesis	Systematic bibliographic review	Synthesize the best qualitative evidence on the perception of family members, patients and health professionals about family presence during CPR	1,2,3,4,5,6
Whitehead L, Tierney S, Biggerstaff D, Perkins GD, Haywood KL[29]	2019	Trapped in a disrupted normality: Survivors' and partners' experiences of life after a sudden cardiac arrest	Qualitative research	Addressing the knowledge gap to improve understanding of the consequences of surviving cardiac arrest in family members	1,2,4
Mawer C[22]	2019	How Can We Make Out-of-Hospital CPR More Family Centered?	Research phenomenological qualitative	Examine what doctors should do morally for patients in ways that the results could be as novel as any new technology for CPR	2,4
Shuvy M, Koh M, Qiu F, Brooks SC, Chan TCY, Cheskes S, Dorian P, Geri	2019	Health care utilization prior to out-of-hospital cardiac arrest: A population-based study	Cohort Study	Assess patterns of health care use in an out-of-hospital PCR	1,2,3,4,5,6

G, Lin S, Scales DC, Ko DT[15]					
Ghasemi Y, Molavynejad S, Jouzi M, Hemmatipour A[30]	2019	Evaluating the awareness of ordinary people about relief operations and cardiopulmonary resuscitation when facing out-of-hospital cardiac arrest	Descriptive study	Assess the reaction of ordinary people to CPR maneuvers when faced with cardiac arrest outside the hospital	1,2,4,5,6
Sato N, Matsuyama T, Kitamura T, Hirose Y[31]	2020	Disparities in bystander cardiopulmonary resuscitation performed by a family member and a non-family member	Observational study	Assess the disparities in CPR by a family member and those made by a non-family member	1,3,5,6

Legend: 1. The mourning of the relatives of those killed by PCR, 2. Situations in which the presence of relatives can be proposed, 3. Difficulties that exist for the implementation of these programmes, 4. Advantages of the programmes for the presence of relatives in out-of-hospital CRA, 5. Barriers that professionals contribute to the implementation of the programmes, 6. Motivation of professionals to present barriers to programmes
CPR=Cardiopulmonary Resuscitation; CPR=Cardiorespiratory Arrest

Figure 1: Papers selection flowchart



Categories of analysis of results

Mourning of relatives of adults who have died of CRP in the out-of-hospital setting

The CRP of a loved one has a huge emotional impact on the relatives and if the death occurs, it often generates grief that can be complicated by feelings of guilt [12-16]. Several studies show that the family would have liked to have been present in the process of resuscitation of the deceased and that they believe that their presence could have been useful for the healthcare team [15,17-20]. Feelings of hopelessness are common in these cases [21-23]. In addition, it has an enormous emotional impact [18,20,24-27].

Those people who were able to be present during the resuscitation of their deceased relative in most cases report that they felt that the help given by the professional team reassured them, understanding that everything possible was done to try and keep their relative alive [8,15,18,28].

In 2001, a group of nurses from the out-of-hospital setting demonstrated that the presence of family members in CRA meant a significant reduction in family anxiety, a feeling that everything possible had been done to save the patient's life, feelings of usefulness, less abrupt disruption of the relationship with the family member and also facilitates mourning [21].

There is evidence of a greater positive effect on intra-family relationships and lower rates of post-traumatic stress and intrusive images if the family member is allowed to accompany them during CPR [16,24].

Situations in which the presence of family members can be proposed and limiting assumptions about the presence of family members in out-of-hospital CPR in the adult

The AHA's recommendations from 2015 indicate that family members should be allowed to be present during CPR at all times, unless this would place excessive stress on CPR personnel or would be considered harmful for any reason [8]. In accordance with this recommendation, it does not seem clear in which specific situations the presence of relatives should be allowed [12,16-19,30]. Moreover, the decision is taken exclusively by the health team [15,20,23,24,26,27,29].

The limitation that the authors usually find in their studies is the inability to guarantee the safety of the family member or the refusal to do so after offering to collaborate with the intervening team [13,20-22,30], but this does not justify the generalised absence.

Difficulties that exist for the implementation of these programmes

Many studies recommend the collaboration of relatives [13-16,28,30]. The most important of these was published in March 2013 in The New England Journal of Medicine [32], but despite this, the reality is quite different, as few out-of-hospital emergency services have programmes for the presence of relatives [8,9].

Health professionals are in some cases reluctant to have family members remain close to the victim because they become nervous and feel pressured [20, 21]. In addition, there is a lack of awareness of this issue on the part of public and private administrations [28]. It is frequent that both professionals and managers, when faced with new CPR scenarios, are very interested in aspects of the rescue area such as the

efficiency of chest compressions and not so much in other aspects of an ethical and social nature [16,27].

Advantages of programmes for the presence of family members in out-of-hospital CPR in adults

Research shows that the presence of a family member can be positive for the team involved as the patient and event information is more accesible [13,15-17,19,20,30]. Studies different from those mentioned above also show that relatives who have been present at a CPR would make the same decision again [21,22,24,26,30].

In addition to the advantages mentioned, there is a further advantage which is to comply with the ethical and social need to implement programmes for the presence of relatives in CPR [29]. According to the recommendations of the AHA of 2015, ethical aspects should evolve at the same pace as the practice of resuscitation [8]. In 2010, both the AHA and the ERC recommended the presence of a family member during CPR as a means of respecting and promoting the autonomy of the patient [8,9], but the reality is quite different, as only half of European countries have implemented such measures [16,17,28].

Barriers contributed by professionals to the implementation of programmes for the presence of family members in the case of out-of-hospital CRA in adults

According to Colbert and collaborators [33], it seems that the main barriers to achieving the presence of relatives during CPR manoeuvres are shown by health professionals who believe that the quality of care can be affected, have a false belief that this will generate pathological mourning in the relatives, express fear of legal action and fear of being overburdened in a situation that could require a lot of effort for them. Fear of ethical and legal responsibility is also a barrier [12,13,15,19,23,27,28]. Furthermore, there is no tacit agreement that the presence of family members facilitates the interruption of resuscitation manoeuvres or hinders care decisions [30]. There are authors who consider that the fear of legal problems in the case of CPR witnessed by relatives is due to the paternalistic practice of current health sciences and that it borders on ethical conflicto [16,19,20,21,25,27]. Awareness and planning could be the key to overcoming all the barriers mentioned [19].

Despite the above, most health professionals believe that each case should be assessed independently [20].

Motivation of professionals to present barriers to out-of-hospital CRA programmes for adults: sphere of power

Healthcare centres are usually defined as an area of power for healthcare professionals [24], where control is in the hands of those who attend, but this is not the case in the out-of-hospital environment, where on many occasions a response to CRP is given in the patient's home, an environment which is considered in some situations as hostile to and by healthcare professionals [16,19,21,30]. This conception of the environment sometimes justifies the non-intervention of the family based on the strengthening of the power or supremacy of the healthcare provider over the patient and his/her family members [13,15,20,28]. This attempt not to lose the hierarchy is

attributed to the sphere of absolute control that occurs in the paternalistic health model, from which we should move away [20,28,30].

DISCUSSION

There is sufficient scientific evidence to recommend the implementation of programmes for the presence of relatives in adult CRA in out-of-hospital settings [7,8,10,13,18-20,21,22,29-30]. It is also supported by the recommendations of leading scientific societies in the field of CPR, including AHA and ERC, which are internationally recognised [8, 9]. However, although the scientific literature shows us a scenario that is conducive to the development of programmes to manage the presence of relatives in the case of out-of-hospital CPR, these programmes hardly exist in Spain [8].

The mourning of relatives is less traumatic and less likely to become pathological if they are allowed to be present [7-9,15,17]. A more distant study shows that a small number of relatives admit to having been very shocked by being present at CPR manoeuvres and to having shown shame when they wanted to leave the scene [29].
The situations in which relatives should be allowed to be present in the case of CPR on an adult victim are not at all clear [13], but what most authors agree on is giving people the opportunity to choose whether or not to accompany the victim autonomously [8,9,13,24,25].

The difficulty in implementing these programmes and which appears relatively frequently in the scientific literature is the lack of motivation of the people who manage the emergency services for these ethical aspects [9,16,29]. Professionals also represent a barrier in situations where they describe the presence of family members as stressful and even an obstacle to assisting the victim [7-9, 28-30]. Some research highlights the possibility of fear of the loss of power of the health care providers [29].

The vast majority of the authors present a scenario with many more advantages than disadvantages when it comes to allowing the presence of relatives in the out-of-hospital environment for CPR. According to the scientific literature, these advantages are both for the family members who are better able to mourn and for the professionals who are more satisfied with their care [13,20,25,29,30].

Finally, it should be pointed out that this research, like all others, has a series of limitations, such as the fact that there is little specific literature on the out-of-hospital environment, especially in the case of adults.

CONCLUSIONS

It can be stated that implementing programmes of this type is important for family members, professionals and managers alike. If relatives are more satisfied with the assistance provided to a family member despite the unfortunate outcome of death, health care providers will be exposed to fewer demands and their job satisfaction will increase. Managers will have satisfied users and professionals who identify more with their professional work and the economic investment for the treatment of pathological mourning will be reduced. Furthermore, this is a social demand and an ethical aspect that should not be left out of the out-of-hospital emergency services.

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