

Family Presence during Cardiopulmonary Resuscitation

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BACKGROUND

The effect of family presence during cardiopulmonary resuscitation (CPR) on the family members themselves and the medical team remains controversial.

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METHODS

We enrolled 570 relatives of patients who were in cardiac arrest and were given CPR by 15 prehospital emergency medical service units. The units were randomly assigned either to systematically offer the family member the opportunity to observe CPR (intervention group) or to follow standard practice regarding family presence (control group). The primary end point was the proportion of relatives with post-traumatic stress disorder (PTSD)-related symptoms on day 90. Secondary end points included the presence of anxiety and depression symptoms and the effect of family presence on medical efforts at resuscitation, the well-being of the health care team, and the occurrence of medicolegal claims.

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RESULTS

In the intervention group, 211 of 266 relatives (79%) witnessed CPR, as compared with 131 of 304 relatives (43%) in the control group. In the intention-to-treat analysis, the frequency of PTSD-related symptoms was significantly higher in the control group than in the intervention group (adjusted odds ratio, 1.7; 95% confidence interval [CI], 1.2 to 2.5; P=0.004) and among family members who did not witness CPR than among those who did (adjusted odds ratio, 1.6; 95% CI, 1.1 to 2.5; P=0.02). Relatives who did not witness CPR had symptoms of anxiety and depression more frequently than those who did witness CPR. Family-witnessed CPR did not affect resuscitation characteristics, patient survival, or the level of emotional stress in the medical team and did not result in medicolegal claims.

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CONCLUSIONS

Family presence during CPR was associated with positive results on psychological variables and did not interfere with medical efforts, increase stress in the health care team, or result in medicolegal conflicts. (Funded by Programme Hospitalier de Recherche Clinique 2008 of the French Ministry of Health; ClinicalTrials.gov number, NCT01009806.)

Figure 1. Randomization and Follow-up.

The Impact of Event Scale (IES) was used to assess symptoms related to post-traumatic stress disorder (PTSD); scores range from 0 (no PTSD-related symptoms) to 75 (severe PTSD-related symptoms). CPR denotes cardiopulmonary resuscitation.

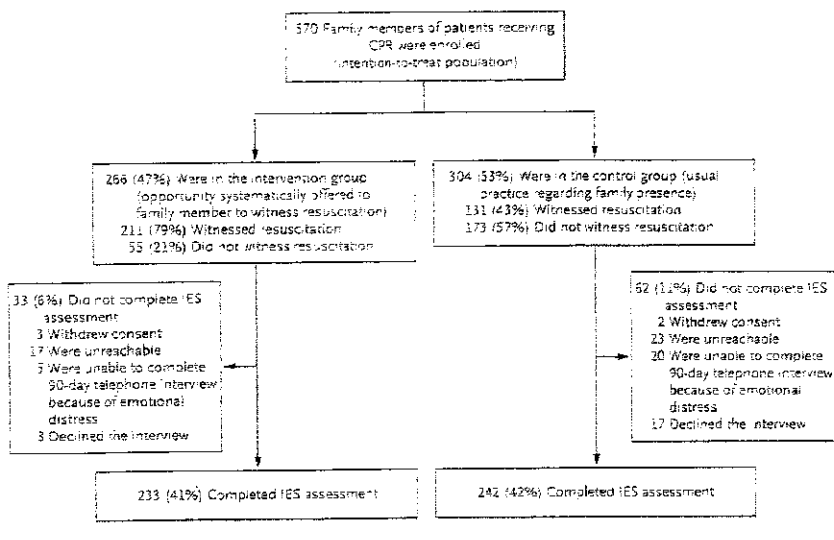


Table 1. Characteristics of Patients, Enrolled Family Members, and Cardiac Arrest.

Characteristic	Intervention Group (N=266)	Control Group (N=304)
Characteristics		
Female	96 (36)	67 (22)
White sex ratio (FS)	1.27 (54)	209 (262)
Concomitant conditions (n, %)		
Chronic obstructive pulmonary disease	47 (18)	44 (15)
Chronic heart failure	73 (27)	58 (20)
Cancer	51 (19)	72 (24)
Psychiatric disorder (anxiety/depression)	8 (3)	8 (3)
Depression	21 (8)	17 (6)
Chronic renal failure	2 (1)	1 (0)
Neurologic disorder	21 (8)	21 (7)
Family members (n, total no. [%])		
A	107/266 (40)	131/304 (43)
B	91/266 (34)	94/304 (31)
C	47/266 (18)	78/304 (26)
D	21/266 (8)	21/304 (7)
Family members		
Age (yr)	57.1 ± 6	57.1 ± 6
White sex ratio (FS)	1.27 (54)	1.14 (108)
Readmission to hospital (n, total no. [%])		
Partner (married or cohabiting)	148/266 (56)	170/304 (56)
Child	49/266 (18)	49/304 (16)
Parent	117/266 (44)	101/304 (33)
Siblings	14/266 (5)	15/304 (5)
Age at death (years) (range)		
Spouse	11 (22) (57)	16 (31) (53)
Grandparent	4 (8) (15)	1 (2) (7)
Parent	37 (71) (13)	23 (41) (7)
Siblings	2 (4) (8)	1 (2) (7)
Other	3 (6) (11)	3 (6) (10)
Religion	54/233 (23)	54/242 (22)
Medical history (mean, total no. [%])		
Method of transport (ambulance)	60/233 (26)	66/242 (27)
Witnessed	116/233 (50)	22/242 (9)
Spouse	139/233 (60)	133/242 (55)
Work status (n, total no. [%])		
Unemployed	1/233 (0)	1/242 (0)
Employee (worker)	192/233 (83)	197/242 (81)
Self-employed (manager)	4/233 (2)	8/242 (3)
Retired (total)	43/233 (18)	74/242 (30)
Unemployed	11/233 (5)	4/242 (2)
Retired	32/233 (13)	70/242 (29)
Other	8/233 (3)	11/242 (5)
Place of death (n, total no. [%])		
At home (of public or private residence)	196/233 (84)	229/242 (95)
Cardiac arrest	41/233 (18)	40/242 (17)
Cardiac arrest characteristics (n, %)		
Family member witnessed cardiac arrest (n, %)	206 (77)	211 (73)
Family member who witnessed a non-witnessed CPR (n, %)	41 (15)	44 (18)
Cardiac arrest characteristics (n, %)		
Primary	11 (5)	17 (7)
Secondary	3 (1)	17 (7)
Specialized death	19 (9)	14 (6)
Medical history (n, total no. [%])		
Structural heart disease	27 (12)	48 (20)
Structural heart disease	11 (5)	13 (5)
Myocardial infarction	16 (7)	13 (5)
Ischemic	128 (55)	241 (100)
Time from call to arrival of first responders (min)		
Median	6	6
Interquartile range	3-18	3-15
Time from call to arrival of first responders (min)		
Median	5	5
Interquartile range	3-15	3-19
Time from call to arrival of first responders (min)		
Median	5	5
Interquartile range	3-10	3-16

Abbreviations: FS, family sex ratio; IES, Impact of Event Scale; PTSD, post-traumatic stress disorder; CPR, cardiopulmonary resuscitation. All values are presented as number (n) and percentage (%). The values in parentheses are percentages of the total number of family members who were enrolled in the study. The values in brackets are percentages of the total number of family members who were enrolled in the study. The values in boldface are percentages of the total number of family members who were enrolled in the study. The values in italics are percentages of the total number of family members who were enrolled in the study. The values in regular font are percentages of the total number of family members who were enrolled in the study.