doi: 10.1111/j.1368-5031.2005.00317.x

A national survey of Turkish emergency physicians perspectives regarding family witnessed cardiopulmonary resuscitation*

S. YANTURALI,[1] G. ERSOY,[1] A. YURUKTUMEN,[1] E. AKSAY,[1] S. SUNER,[2] Y. SONMEZ,[3] D. ORAY,[1] N. COLAK,[1] A.H. CIMRIN[1]

Dokuz Eylul University Hospital,[1] Department of Emergency Medicine, Izmir, Turkey, Rhode Island Hospital,[2] Department of Emergency Medicine, Rhode Island, USA, Dokuz Eylul University Hospital,[3] Department of Public Health, Izmir, Turkey

SUMMARY

We investigated Turkish emergency physicians' views regarding family witnessed resuscitation (FWR) and to determine the current practice in Turkish academic emergency departments with regard to family members during resuscitation. A national cross-sectional, anonymous survey of emergency physicians working in academic emergency departments was conducted. Nineteen of the 23 university-based emergency medicine programs participated in the study. Two hundred and thirty-nine physicians completed the survey. Of the respondents, 83% did not endorse FWR. The most common reasons for not endorsing FWR was reported as higher stress levels of the resuscitation team and fear of causing physiological trauma to family members. Previous experience, previous knowledge in FWR, higher level of training and the acceptance of FWR in the institution where the participant works were associated with higher rates of FWR endorsement for this practice among emergency physicians.

Keywords: Cardiopulmonary resuscitation; family presence; witnessed resuscitation; family witnessed cardiopulmonary resuscitations

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INTRODUCTION

Family witnessed resuscitation (FWR) is defined as the process of active medical resuscitation in the presence of family members (1). The concept of a structured, witnessed resuscitation program was initially aired at the Foote hospital in USA in 1987 (2). With this program, the routine practice of removing family members from the resuscitation room was questioned and studies evaluating this practice were initiated. During the past decade, FWR has become popular in the medical literature and debated in the media. Manuscripts describing the views of health care workers and family members regarding FWR of children and adults have been published.

In 1995, the Royal College of Nursing jointly with the British Association for Accident and Emergency Medicine recommended that witnessed resuscitation should be considered and supported. The resuscitation council (UK) shares these views and recommends pre-planning and discussion with all members of the resuscitation team (3). The American Heart Association recommends that family members be given a choice of observing the resuscitation whenever possible (4). In Turkey, no medical organisation has released guidelines for FWR, and the views of Turkish emergency physicians regarding FWR are unknown. In this study, our objectives were to elucidate the views of Turkish emergency physicians concerning FWR and to determine the current practice in Turkish academic medical centres with regard to family members during resuscitation.

Correspondence to:
Sedat Yanturali, MD, Dokuz Eylul University Hospital, Department of Emergency Medicine, 35340 Inciralti, Izmir, Turkey
Tel.: +90 232 4122702
Fax: +90 232 2599723
Email: sedat.yanturali@deu.edu.tr

*Sedat Yanturali (SY) and Gurkan Ersoy (GE) conceived the study and designed the trial. GA and SY supervised the data collection, recruited the participating centres and managed data collection operations, including quality control. Yonca Sonmez, Aslihan Yuruktumen, Deniz Oray, Nese Colak provided statistical advice on study design and analysed the data. SY, Selim Suner, Ersin Aksay and Arif Hikmet Cimrin drafted the manuscript, and all authors contributed substantially to its revision.

METHODS

Study Design and Population

University-affiliated emergency department chairman or representative faculty members were contacted via telephone or e-mail. A survey form and self-addressed envelope were then mailed to the study representatives from emergency departments which agreed to participate in the study. This voluntary and anonymous cross-sectional survey targeted residency-trained emergency physicians and emergency medicine residents practicing in university hospitals in

Turkey. The hospital institutional review board approved the study and survey tool.

Survey Content and Administration

The survey consisted of three pages. The first page was informational. This section included the objectives of the study and an introduction to FWR. The following pages contained the survey questions. Additionally, for each university emergency department participating in the project, a separate questionnaire was sent to the site investigator responsible for recruiting subjects. With this form, the total number of residency-trained emergency medicine faculty and the number of residents in their program was queried.

The survey had 13 questions (two of the questions had multiple parts) including those which asked for participant demographic information. The participants were asked about their familiarity with FWR and whether they allowed family members to view resuscitations in their institutions. They were also asked if they were ever involved in a resuscitation in which family members were present. The participants were asked if they favoured FWR and the reasons for their views. There were nine selections given to the participants to query the reasons for their views on FWR. They were also given the option of writing in their reasons. The participants were also asked what their views would be if their family members or themselves were the recipients of the resuscitation. The surveys were sent on December 13, 2003 and the last survey was returned on January 15, 2004.

Data Analysis

χ^2 and Mc-Nemar tests were used for univariate analysis utilising SPSS 11.0 and EPI INFO 2002 statistical computer packages.

RESULTS

Characteristics of the Survey Participants

Nineteen of the 23 university-based emergency medicine departments in Turkey participated in the study. The remaining programs were either unable to participate in the study due to lack of personnel to perform the requested liaison tasks or never responded to repeated invitations. Two hundred and thirty-nine physicians (44 residency-trained emergency medicine attending staff, 194 emergency medicine residents and one unspecified) completed the survey. This represents approximately 80% of all residency-trained emergency physicians in Turkey (55% of all attending emergency physicians and 88% of all emergency medicine residents). Rate of completion was 96% among those programs agreeing to participate. The participants who completed the survey were 66.5% male and had a mean age 30 years (range 25–42, standard deviation: 3.35). Complete demographic data are presented in Table 1.

Turkish Emergency Physicians Familiarity with FWR, Their Views Concerning FWR and the Current Practice Regarding FWR in Turkey

Most of the participants (82.8%) did not endorse family member presence during resuscitations. The rate of participants not favouring FWR varied from 59 to 100% among institutions. The participants' reasons for endorsing FWR or not are summarised in Table 2. Sixty percent of participants indicated that they were familiar with FWR and 37% stated that they were involved in a resuscitation during which family members were present. Seventy-eight percent of the participants indicated that family members were never allowed to view resuscitations, 21% stated that family members were occasionally allowed and only 1% of participants stated that they were routinely allowed.

Thirty-six percent of the participants stated that they would like to be present during the resuscitation of a member of their family. The ratio of participants who would like to view their family members' resuscitation to those favouring FWR is 5.5. [Mc Nemar $\chi^2 = 29.79$, $p < 0.001$, OR = 5.5 (95% confidence interval: 3.0–10.2)]. In contrast, only 9% of the participants indicated that they would like to have their family members view their own resuscitation.

Table 1 Demographic data

	*% (Number)**
Age	
21–25	1.7 (4)
26–30	59.0 (141)
31–35	31.0 (74)
36–40	6.7 (16)
>40	0.4 (1)
Gender	
Male	66.5 (159)
Female	33.1 (79)
Level of training	
Resident	81.2 (194)
Attending	18.4 (44)
Marital status	
Married	47.7 (114)
Single	51.0 (122)
Divorced	1.3 (3)
Children	
None	75.7 (181)
1	15.5 (37)
2	7.9 (19)
≥3	0.8 (2)

*Due to missing data the numbers may not add up to 239.

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Table 2 Participants' explanations supporting their views

Reasons for agreeing with FWR	*Percent*
May facilitate communication with family members	80.5
May facilitate family member acceptance of the death	73.2
I believe that family members have a right to be beside their loved ones during their last moments of life	61.0
May make the notification of death to the family members easier	58.5
May head off family members questioning resuscitation	41.5
May reduce legal repercussions	39.0
I believe that the patient has a right to be beside their loved ones during the patients last moments of life	34.1
I will get more satisfaction from my work	17.1
Others	12.5
Reasons for rejecting FWR	
May increase the resuscitation teams level of stress	82.7
May cause psychological trauma to family members	79.8
May render the decision to end resuscitation difficult	79.3
The resuscitation team may be subject to verbal abuse	77.8
May disrupt the flow of the resuscitation	76.3
The resuscitation team may be subjected to physical abuse	73.7
May worsen legal repercussions	52.0
May decrease the success rate of the resuscitation	46.0
Other	11.1*

*76.2% in this group sited 'a low socioeconomic status of the family members' as a reason. FWR, family witnessed resuscitation.

Factor Effecting Participants' Personal Views Concerning FWR

Demographic variables such as age, gender, marital status and having children did not affect participants' views regarding FWR. However, 'level of training' (dichotomised to attending vs. resident) did influence the participants' views. Residents were significantly less likely to favour FWR compared to attending emergency physicians. Also, those participants familiar with FWR and those who have participated in a resuscitation during which family members were present were significantly more likely to favour FWR. Other factors which influenced the participants views in favour of FWR were: working in an ED with volume >36 500, working in an ED which allowed FWR and having participated in a FWR (Table 3).

DISCUSSION

There have been many studies investigating the views of health care workers on FWR in adult patients (2,5–12). When recent studies with good methods and broad participation are considered, over 60% of the participants were against FWR (5–8). The results obtained in this study are in accordance with previously published results. During the preparation of this manuscript, an article describing the Asian experience with FWR showed that 80% of the physicians did not endorse this practice (5). In a recent study surveying 592 US critical care professionals as participants showed that 80% of physicians and 61% of nurses and allied health care professional rejected FWR (6). Also, in a large survey of The Emergency Nurses Association (ENA) and the American Association for the Surgery of Trauma (AAST) members, the majority of both AAST and ENA respondents believed that the presence of family members during all phases of resuscitation was inappropriate (AAST, 97.8%; ENA, 80.2% n = 1629) (7). Also, in a small British study, 63% of a combination of physicians and nurses objected to FWR (8). These studies reiterate the traditional approach to resuscitation etiquette which is based on attitudes not supported by research.

In contrast, the literature also contains studies which have shown a greater than 60% approval for FWR (2,9–12). Meyers et al. (9) reported that 96% of nurses and 79% of attending physicians in the emergency department supported FWR at their institution. In another survey of health care providers, 74% were in favour of having relatives included in resuscitations (10). Although these survey studies suggest that health professionals show a positive response, these studies had poor methodology and inadequate accounting of missing information (13). In most of these studies the rate of nurses in favour of FWR was more that of physicians (5–12).

In our study, the most common reasons cited by the participants for not favouring FWR was 'increases stress level of the resuscitation team' and 'fear of causing physiological trauma to family members'. Ong et al. (5), McClenathan et al. (6) as well as Mitchell and Lynch (8) showed that 'fear of causing physiological trauma to the family members' was reported by 89, 79 and 86% participants, respectively. Other studies have also reported that this concern was the major reason for not favouring FWR (9,14,15). Although many health care providers are concerned about inflicting psychological trauma by allowing FWR, this view is not shared by family members (2,10,16–19). In a study looking at family members' views on FWR, 94% of family members stated that they would like to be present in other resuscitations of family members. In the same study, 76% of participants stated that the period of observation helped their grieving process (2).

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Table 3 Factors influencing attitudes towards

	Participants not endorsing FWR (%)	*p-value*	*Odds ratio(95% CI)*
Age			
≤30	86.8	0.120	1.82 (0.87–3.84)
>30	78.3		
Gender			
Female	86.1	0.441	1.44 (0.64–3.27)
Male	81.1		
Level of training			
Resident	85.6	0.029	2.49 (1.08–5.67)
Attending	70.5		
Marital Status			
Married	83.5	0.937	1.09 (0.53–2.25)
Single/divorce	82.3		
Children			
None	82.9	0.857	1.01 (0.43–2.34)
≥1	82.8		
University Medical Center			
Dokuz Eylul and Akdeniz	58.8	<0.0001	8.40 (3.77–18.96)
Others	92.3		
Familiarity with FWR			
Not Familiar	95.8	<0.0001	7.89 (2.55–27.19)
Familiar	74.5		
Are participants working at departments which do not allow FWR more inclined to disapprove?			
No	89.8	<0.0001	6.48 (2.96–14.31)
Yes (sometimes)	57.7		
Volume of emergency department (patients per year)			
<36,500	92.4	0.0002	4.44 (1.91–10.62)
≤36,500	73.3		
Previous experience with FWR			
Lack of experience with FWR	88.1	0.0084	2.61 (1.25–5.48)
Prior experience with FWR	73.9		

CI, confidence interval; FWR, family witnessed resuscitation.

Additionally, in a randomised, controlled pilot study there were no reported adverse psychological effects among the relatives who witnessed resuscitation, all of whom were satisfied with their decision to remain with the patient (14). Moreover, the presence of a patient's family did not increase their perceived stress during resuscitation (20).

In this survey, greater than 70% of participants were concerned about verbal or physical abuse and impediment of resuscitation. Participants in other studies also shared this concern (5,7). In a follow-up study of the hospital practice of encouraging family presence during resuscitation 9 years after the initial implementation of this program revealed no instances of family interference with resuscitative efforts (16). However, the authors of this study did not report the number of resuscitations conducted in this period and did not specify what would constitute interference with resuscitation. Forty-six percent of responders, in our study, cited the possibility of adversely effecting success rates as a reason for not favouring FWR. In a study conducted at the Foote hospital, investigators found no difference in resuscitation success rates with FWR (2).

In our study, the factors which increased the rate of participants favouring FWR were: higher level of training, previous attendance at a FWR, the availability of FWR in the institution where the participant works and previous knowledge of FWR. In a study on paediatric FWR, previous experience with family member presence was the most important predictor of acceptance among emergency department providers (21). This study is the first to report a significant difference in opinion concerning FWR based on whether participants had any prior knowledge base of FWR. The 40% of Turkish emergency physicians for whom FWR was a novel concept had a significantly lower rate of approval of FWR compared to those who had prior knowledge of the subject. This suggests that unfavourable support for family presence may be related to a knowledge deficit which would be amenable to educational interventions. Bassler showed that opinions of nurses regarding FWR could be modified in

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favour of family presence by an educational intervention. The rate of participants favouring FWR increased from 56 to 89% after the intervention. The increase observed in Bassler's study may be due to the educational program's effectiveness in dispelling common misconceptions concerning FWR (15).

Our study has revealed regional effects on FWR endorsement among University Medical Centers. Participants from Dokuz Eylul University (DEU) and Akdeniz University emergency departments were more likely to favour FWR when compared to the rest of nation. DEU was the site of the first academic emergency medicine program in Turkey. This program was modelled after progressive emergency medicine training programs in US which had experience with FWR. The emergency department at Akdeniz University was formed by graduates of the EM program at DEU. Regional variations in FWR favourability was also seen in another study in which the authors speculated that 10 years of effort by the Foote hospital staff may have taken root in the Midwest, making FWR more acceptable in that region.

Even though FWR is being recommended by organisations such as the AHA, the specifics of how to implement FWR programs are not stated. No recommendations have been made regarding the timing of family entrance into the resuscitation room or under what circumstances they would be removed from the room. Pre-determined protocols and guidelines regarding FWR would aid in the acceptance of this concept and minimise negative experiences with the practice.

It would be expected that health care providers' views regarding FWR would be influenced by culture and religion. On the contrary, well-designed studies to date conducted by investigators from settings with diverse cultural and religious backgrounds have shown similar results with regard to FWR attitudes among health care workers. Results from these data, echoed in this study, reveal that the prevalent negative attitude towards FWR is a function of limited education rather than an inherent cultural or religious bias. As with many other topics in medicine, these attitudes are passed down from teacher to student, often without challenge. Further study is needed to elucidate the proper selection of family members for FWR and to determine the timing and proper introduction of the family into the resuscitation room. Studies evaluating the impact of FWR on family members grieving process and psyche are also needed.

LIMITATIONS

Our results must be interpreted within the context of the limitations of this study. This survey was not validated or piloted for reliability. The participants were residency-trained emergency physicians and emergency medicine residents chosen from academic medical centres in Turkey and do not represent the majority of practitioners in Turkish emergency departments. In addition, this study was conducted only on physician participants. The views of Turkish emergency nurses and other health care professionals were not studied.

CONCLUSIONS

Many Turkish emergency physicians have no knowledge of FWR and do not support the practice. Emergency physicians are more likely to favour FWR as they learn more about and gain more experience with FWR.

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Paper received April 2004, accepted July 2004

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