

Attitudes of doctors in training to cardiopulmonary resuscitation

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ABSTRACT – A survey of 70 junior doctors was conducted in 2006 to analyse their attitudes to cardiopulmonary resuscitation (CPR). All had advanced life support training, yet 73% found CPR stressful. Major causes of stress included poor outcome and inappropriate CPR. The expectations of junior doctors regarding survival after CPR were unrealistic. Inappropriate CPR resulted from the failure of seniors to ascertain CPR status. It was statistically proven that six-monthly training/updates are associated with less stress and increased confidence. Most junior doctors found discussing CPR with patients/relatives difficult. CPR-related stress may be minimised by creating awareness of the procedure's poor outcome, by ensuring that seniors document CPR status where relevant, and by encouraging junior doctors to undergo debriefing and six-monthly training/updates. Stress arising from discussing CPR with patients/relatives may be minimised by training organised by the employing trust and by increasing patients' understanding of CPR through information leaflets.

KEY WORDS: advanced life support training, cardiac arrest, cardiopulmonary resuscitation, junior doctors, stress

Background and objectives

Cardiopulmonary resuscitation (CPR) is an integral part of the on-call commitments of a doctor in training. Its effect on doctors has been previously reported in a survey conducted at Wirral Hospital NHS Trust in 2001.¹ The current survey was undertaken in the same hospital to review the stress of junior doctors to CPR, now that advanced life support (ALS) training is standard. It also attempted to establish a temporal association between training (ALS/CPR updates) and stress associated with CPR and self-assessed competency in the procedure. The causes of this stress, the perceived effect of the media in CPR decisions and junior doctors' difficulties in discussing CPR status with patients and relatives are also discussed.

Methods

A qualitative questionnaire was sent to all doctors in training who routinely participated in the cardiac arrest team of a district general hospital in Merseyside. Responses were obtained from 70 junior doctors: 27 pre-registration house officers (PRHOs), 35 senior house officers (SHOs) and 8 specialist registrars (SpRs). The questionnaire was anonymous and consisted of a mixture of multiple-response questions as well as open-ended questions. The analysed data was expressed as the percentage or the mean of responses for each question and was then compared with the findings of a survey performed five years earlier in the same hospital.¹ The significance of statistical associations was assessed using the chi-square test.

Results

The stressful effects of CPR

Of the doctors in training, 73% found CPR stressful. This included 82% of PRHOs, 69% of SHOs and 63% of SpRs. This high proportion reflected the 2001 survey results although all the doctors in the present study had valid ALS training as opposed to only 49% of those in the earlier study. The most common causes of stress associated with CPR were:

- poor outcome of CPR (49%)
- performance of inappropriate CPR (27%)
- the procedure itself (14%)
- uncertainty of the role of individual participants (10%).

Expectations of the outcome of CPR

Of the junior doctors, 54% estimated the immediate survival rate after cardiac arrests with CPR to be over 20%, while 43% estimated the survival rate to discharge to be over 20%. The mean of the estimated immediate survival rate in cardiac arrests was 41% while the mean of the estimated survival rate to discharge was 35%. Overall, it was noted that junior doctors' expectations of the outcome of CPR were unrealistic.

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Competency in CPR and debriefing

In this survey a large proportion of doctors in training (89%) reported themselves to be competent in performing CPR. This was an improvement from the 2001 study where 76% reported competency in CPR. Only 9%, however, had experienced debriefing sessions after cardiac arrests.

Training and its temporal association with stress and competency in CPR

All participants in the 2006 survey had valid ALS training. Those who had received their training within six months of the survey were found to have considerably less stress associated with CPR (stress reported by 52%) compared to those who had undergone the same training more than 12 months previously (92%). This association was found to be statistically significant ($p < 0.05$). Of the junior doctors, 91% claimed to have had additional CPR updates and those who had received CPR updates less than six months from the time of the survey considered themselves as more competent in CPR (statistically significant, $p < 0.05$).

Inappropriate CPR

Of the junior doctors, 71% reported that they had participated in inappropriate CPR at some point during their on-call commitments. Of those, 88% attributed the cause of this to the failure of a senior doctor in documenting CPR status.

The effect of the media in CPR decisions

Most junior doctors (74%) believed that the media had recently come to exert some influence on CPR decisions and 73% of these did not consider this beneficial.

Discussing CPR with patients, their relatives and senior colleagues

Of the junior doctors, 77% claimed to have found it difficult to discuss CPR status with patients and 69% reported the same difficulty with patients' relatives. The most common causes included the challenge in broaching the subject, the upsetting effect of the discussion and the possibility of disagreement. None of the surveyed doctors, however, reported difficulty in discussing CPR status with senior colleagues.

Discussion

The Resuscitation Council (UK)² has reinforced the need for basic/advanced life support tuition to be developed as core skills for doctors and the General Medical Council has stated in its guidance on good practice that it is the responsibility of the doctor to keep their knowledge and skills current.³ The Royal College of Physicians has also stated that ALS should be taught in the undergraduate course and that all junior doctors be 'capable of instituting' it.⁴ It was gratifying to note that all the participants of this survey had valid ALS training.

Most doctors in training (73%) admitted that they found CPR stressful. This is again consistent with the 2001 study although 51% of those participants had no ALS training unlike the doctors in the present survey. The main causative factor for this stress was reported to be poor outcome following CPR. And indeed, survival-to-discharge after in-hospital cardiac arrests is reported to be less than 20%.⁵ On further enquiry it was noted that the overall expectations of junior doctors about the outcome of CPR in in-hospital cardiac arrests were unrealistic. The second most common cause of stress was the unsuitability of CPR in certain patients and 88% of those who had participated in such CPR felt that it resulted from the failure of senior staff to ascertain CPR status. This unfortunately occurred despite the knowledge that performing futile CPR on a patient who is clearly not going to benefit may be traumatic for doctors, as well as being degrading to the dying patient. A review in 1993 concluded that about 50% of CPR survivors have permanent neurological disability and attempting to cope with this was considered by many to be 'worse than death itself'.⁶

In this survey, 91% of junior doctors stated that they had never experienced a CPR debriefing session. This is regrettable as debriefing is important not just from the educational perspective but also for the individual who may have been traumatised by the outcome of CPR and require further support. Debriefing also provides the opportunity for personal reflection and may allow for anonymous critical event audit as part of support and clinical governance.⁷

A notable finding of this survey was that those junior doctors who had received their ALS training and CPR update within six months of undertaking this survey rated themselves as less stressed and more competent in CPR compared to those who had undergone their training/update prior to six months. This goes on to confirm the results of an assessment on newly qualified doctors in New Zealand which showed that having received training within six months improved a doctor's confidence in performing CPR.⁸

Recommendations to combat stress associated with CPR

- Stress caused by the poor outcome of CPR could be addressed by attempting to modify the unrealistic expectations of junior doctors. This may be done by creating a general awareness of the procedure's poor outcome at ALS training, CPR updates and trust inductions.
- Debriefing sessions should be more readily available to those traumatised by CPR.
- Stress associated with the performance of inappropriate CPR may be minimised by ensuring that senior medical staff document CPR status in relevant patients.
- It has been statistically proven that six-monthly training/updates in CPR are associated with less stress and increased confidence in the procedure and implementing these may result in the overall confident and stress-free performance of CPR.

A large proportion of the doctors participating in this survey believed that the media had come to exert an unbeneficial effect on CPR decisions. Diem *et al* performed a study of the occurrence of CPR on television episodes in the US and concluded that 65% of patients in these programmes survived the arrest.⁹ These survival rates are significantly higher than the most optimistic reports in medical literature and it serves as an example of the misconceptions fostered by the media.

Most junior doctors participating in this survey stated that they experienced stress in discussing CPR and do not attempt resuscitation issues with patients and their relatives. Several investigators had previously suggested that a majority of elderly or critically ill patients would want to undergo CPR in the event of cardiac arrest. Wagner, however, indicated that a small minority (less than 10%) would want the same.¹⁰ Others have reported that 20–45% of patients with serious disabilities/illnesses opt for CPR.^{11–14} In a separate study, when asked about their wishes if they had a cardiac arrest during an acute illness, 41% opted for CPR. This number fell to 22% when patients learned about the probability of survival-to-discharge and only 6% of patients aged 86 years or more chose CPR under these conditions.¹⁵ This highlights that elderly and critically ill patients readily understand prognostic information which influences their preferences with respect to CPR. It would thus be prudent for doctors in training to bear in mind that after a full discussion with patients about their illness and prognosis, their preference for CPR is likely to change. Moreover, in a Canadian study, patients who felt that end-of-life issues were relevant to them were 5.5 times more likely to want a discussion with their physician regarding resuscitation.¹⁶

Recommendations to combat stress in discussing CPR issues

- Junior medical staff should be encouraged to attend communication skills courses and events.
- Training in discussing CPR issues should be made routinely available at induction by the employing trust.
- Information leaflets regarding CPR should be made available in the admission documents. These could provide information on the procedure, the odds of immediate survival and survival-to-discharge, the complications of CPR and issues on the quality of life on survival.
- Patients and relatives should be strongly encouraged to read the information leaflets before a full discussion is taken up with their clinician. This may improve the quantity and quality of communication and decision-making about CPR and can make the discussion easier and less stressful for patients, relatives and doctors.

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