

Instructors—a weak link in resuscitation training

ABSTRACT—One explanation for the well documented poor basic resuscitation skills of health-care professionals is that these skills are not acquired during initial training. The first aim of our study was to assess the basic life-support skills of trainers teaching basic resuscitation. The second aim was to examine the relationship between the trainers' confidence and actual skill. We found that practical basic life-support skills prior to the two-day training course were poor. They were still inadequate after training. Assessments before and after the course showed significant positive correlation between confidence at performing basic life-support and actual skill. There is an urgent need for formal instructor training in the UK. The training programme should be evaluated, as should the performance of both trainers and trainees, to ensure that all have acquired the requisite skills.

One explanation for the low standards of basic life-support skills among doctors, nurses and other care professionals is that they do not acquire these skills during their initial training [1–3]. One reason for this could be that the trainers are themselves insufficiently skilled. Instructors are unlikely to recognise the fact that they may lack the skills necessary for a competent performance in basic life-support. We have previously found that the confidence of health-care professionals to perform resuscitation is unrelated to their skill [4,5], and that increasing experience (in terms of years after qualification) is associated with a corresponding increase in confidence but not in skill [5].

The first aim of this study was to assess the skill in basic life-support of trainers responsible for teaching basic resuscitation. The second aim was to examine the relationship between the trainers' confidence and their actual basic life support skills.

Method

Subjects

All 31 trainers teaching basic life-support (21 nurses, two resuscitation training officers, one nurse tutor, seven others) who were attending a two-day trainers' course agreed to take part in this assessment. They

had last attended a training course on average 12.5 months previously (range 1–42). They were aware that their basic life support skills would be tested at the beginning of the course.

Measures

(a) *Experience*. A self-report questionnaire was posted to each participant to elicit the following information: present occupation; the number of years qualified in the profession; time since last attending a basic life-support training course; practical experience, ie the number of cardiac arrests attended during the past 12 months.

(b) *Confidence*. Confidence in being able to resuscitate a patient was determined on a nine-point rating scale, marked from 0 (not at all confident) to 8 (extremely confident) [4,5]. Questionnaires were sent out immediately before and after each assessment.

(c) *Basic life-support skills*. Skills were assessed using a manikin [Skillmeter Resusci Anne (Laerdal)] before and after the training course. The trainers were taken into a room and told: 'You have found this person collapsed on the floor; please show me what you would do, using the manikin.' After two minutes they were asked to stop. Basic life-support skills were measured using print-outs from the manikin. It provides the following information: percentage of correct ventilations (0.8–1.2 litres) and external chest compressions (compression depth 1.5–2 in, correct hand position; competent performance considered to be >95%), average compression rate (correct 60–80/min) and compression to ventilation ratio (correct 15–2). The checklist was used to determine the correct sequence: assessment, open airway, check breathing, and check pulse. One point was awarded for acceptable performance on each of the assessed skills. The data were analysed by a trained assessor using the recommendations of the Resuscitation Council (UK) 1989 guidelines for basic life-support. Detailed checklists are obtainable from the authors upon request.

Results

Practical basic life-support skills prior to the course were poor: none of the trainers performed external chest compressions competently, and only five of the

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31 could ventilate adequately. After training there was little improvement: only three trainers were now competent at compressions and only two could ventilate adequately (Table 1). They improved in carrying out the sequence steps: assessment, open airway, check breathing, and check pulse. They had the same degree of confidence in their skill before and after the course.

There was no association between basic life-support skills and confidence at performing these skills prior to training. Professional experience, measured by the number of years qualified, was also unrelated to skills at the initial assessment. However, the longer the trainers had been qualified the greater was their confidence prior to the course that they had the requisite skills ($r=0.50$, $p<0.01$). Practical experience, measured by the number of cardiac arrests attended, was not related to skill prior to or at the end of the course. Following both assessments there was a significant positive correlation between confidence at performing basic life-support and actual skill ($r=0.36$, $p<0.05$; $r=0.55$, $p<0.01$, respectively).

Discussion

The basic life-support skills of this group of trainers were extremely poor prior to training. None could perform compressions and ventilations adequately. Many people, including nurses, doctors and lay people, are therefore currently being trained in basic life-support by instructors who themselves lack the necessary competence. While the course improved the sequence steps, practical skills remained poor, possibly because the time devoted to practical training was too brief. As for all forms of resuscitation training, adequate time is a prerequisite for acquiring complex skills [5,6]. A further factor militating against much benefit from this two-day course is the inaccurate view that participants had of their own skills. Since confidence was unrelated to competence, those most in need of further training were unlikely to have perceived the need for more training.

Were our criteria for competence too strict? If the cut-off were lowered from 95% to 80%, there would still only have been two trainers able to perform compressions and ventilations adequately prior to training. After training, more than half of the group still could not satisfactorily perform the practical skills.

The participants in this study had chosen to come for further training; we therefore do not know how representative they are of trainers as a whole but, given the inability of health professionals to judge their own resuscitation skills, it is unlikely that this group represents mainly trainers with the poorest skills.

The results of this study highlight an urgent need in the UK for compulsory formal instructor training with

Table 1. Frequencies of correct responses to each of the basic resuscitation skills assessed

	Pre-training (n=24)	Post-training (n=23)
<i>Sequence steps</i>		
Assess unresponsiveness	23	23
Call for help	15	19
Open airway/check breathing	24	23
Check pulse	19	22
<i>Practical skill (correct response = >95% score from Skillmeter Resusci Anne report)</i>		
Correct hand position/ depth of compression	0	3
Correct volume ventilation	5	2
Correct ratio of compressions to ventilations (15-2)	20	22
Correct rate (60-80/min)	9	5

certification. In addition, the training programme, the trainers' and the trainees' performance should be evaluated to ensure that the skills can be and are acquired. There is also a need for regular refresher training to aid retention of these skills. Until trainers are expected to attain a minimum standard of competence in resuscitation, efforts to train health-care professionals and lay people in basic life-support will continue to fail.

References

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