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Immediate life support (ILS) training Impact in a primary care setting?☆

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Summary
Objective: To evaluate immediate life support (ILS) training in a primary care setting.
Methods: A 12 month pre/post-quasi-experimental and qualitative evaluation of ILS training across the counties of Devon and Cornwall (UK). Data were collected via feedback forms, pre/post course knowledge and skills tests and by focus group interviews with key stakeholders.
Results: One hundred and seventy-three professionals from 10 courses took part in the evaluation with a response rate of 93%. Feedback on the course was overwhelmingly positive. A significant improvement in both skills ($p \leq 0.001$) and knowledge ($p \leq 0.001$) was shown. However, a proportion of participants had a decline in knowledge by the end of the course. Those attending ILS had a significantly higher knowledge score at the start of the course ($p = 0.002$) than a group attending a BLS course, indicating that the preparatory course manual had been beneficial. Knowledge did not decline significantly by 6 months but skills did ($p = 0.02$), but remained higher than pre-course levels ($p \leq 0.001$). Knowledge ($p = 0.008$) and skill ($p \leq 0.002$) retention following the ILS course was significantly higher than in the BLS course sub-group, indicating the added value of ILS. The focus groups raised a number of themes relating to release of staff; funding issues; and the observed and reported effects of assessment inequity mainly relating to 'failure to fail' and 'dove and hawk' approaches.
Conclusion: The course leads to a significant increase in skills and knowledge with good knowledge retention. Skill decline is significant which raises questions about the practice of practitioners who are not updated regularly. Issues of funding, staff resources and the assessment ethics and strategy need to be addressed.

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Introduction

The ILS course is a one day adult basic life support course which aims to equip participants with the essential skills for a first responder, including airway management, basic life support (BLS) and advisory defibrillation. A collaboration of the nine primary care trusts (PCTs) in the south west of England piloted the course with a formal evaluation.

Survival from cardiac arrest is generally low. Recent figures based on a decade of in-hospital resuscitation indicate immediate survival rates of 39 and 25% at 24 h and only 16% to discharge.[1] These figures are much lower in primary care, Conroy et al.[2] identified no United Kingdom survival reports in continuing care settings, but figures from the United States suggest 0—6% survive to hospital discharge, whilst survival from resuscitation in public places ranged from 5—10% at discharge.

A body of evidence[3—5] suggests that the main predictors of survival are time to the start of basic life support, effectiveness of basic life support and time to defibrillation. The aim of the ILS course is to teach 'first responders' the essential knowledge and skills required to manage a patient in cardiac arrest prior to the arrival of a cardiac arrest team.[6] The one day, multi-disciplinary course is licensed and managed by the Resuscitation Council (UK) with certification valid for 12 months.The course has also been adopted by the European Council. Recertification can be achieved by repeating the whole course or by undertaking a half-day recertification course.

The course comprises lectures on the recognition of the sick patient, cardiac arrest rhythms and treatment algorithm; skill stations on BLS, airway, defibrillation and drugs; and cardiac arrest scenarios (CAS). Candidates are provided with a course manual two weeks prior to the course.

Assessment is continuous—instructors use an assessment framework to identify weaker candidates who may need further tuition. At 0.92%, the national failure rate for the course is extremely low.[6]

Tutor student ratio is expected to be 1:6 and at least 50% of instructors have to be current advanced life support (ALS) instructors and only they can act as assessors. Assessment inconsistency has been raised as an issue, for example, Kaye et al.[7] found that instructors consistently rate students' overall performance as acceptable but performance checklists found performance unacceptable. This raises issues about assessors overall 'gut reaction' or recognition primed decision making skills in comparison to itemised rating scales.[8]

Skill and knowledge retention in relation to CPR are well documented in the literature. Hamilton[9] gives a good summary. Knowledge tends to be retained better than skills but both decline significantly within 3—6 months. Performance and retention is improved with video self-instruction, peer tuition, computer-based teaching tools and applicable simulations.

In this study, we make quantitative comparisons between the ILS course and a typical half-day in-house BLS course, which includes the same skills, but excludes pre-course manuals, delivers the knowledge components in a condensed format and works on a higher student instructor ratio.

Material and methods

The evaluation presented here is a pre/post-quasi-experimental and qualitative evaluation based on Kirkpatrick's[10] and Clark's[11] models for training evaluation. Kirkpatrick's hierarchy focuses on satisfaction, knowledge and skill gain, workplace and society impact. Clark's model is based on four levels of evaluation, reaction, learning, performance and impact. In this study, therefore, we have reviewed participant feedback sheets, measured skills and knowledge gain and retention and considered stakeholder views on the outcomes of the ILS course in a primary care health setting. Full ethical committee approval was gained for the study.

Data were obtained on demographics and training history and from course evaluation sheets. All participants were tested for skills and knowledge at the start of the course, at the end of the course and at 6 months for a randomly selected sub sample. The skills test was based upon the standard ILS skill tests for BLS, airway management and defibrillation. Knowledge was tested with a 12 item multiple choice questionnaire (MCQ) which had been tested and revised by a team of five Resuscitation Officers over a period of five years. Each question stem was followed by four possible answers, one of which was correct. One point was allocated for each correct answer with no negative marking.

To investigate the effect of course preparation, including pre-course reading on knowledge test scores the MCQ was also administered to 44 non-ILS attendees at the start of a standard in-house BLS course. The data were compared to knowledge scores at the start of the ILS course.

Twenty-nine course participants were selected randomly for the six month skill and knowledge retention study. The number of participants was determined by a statistical power calculation (see data analysis below). This retention data was compared with a control group ($n = 25$) who had reported receiving BLS training six months prior to