



INTERNATIONAL JOURNAL OF CLINICAL SKILLS



A Peer Reviewed International Journal for the Advancement of Clinical Skills
- *'docendo ac discendo' - 'by teaching and learning'*



In this issue:

Does first aid have a place in the medical curriculum? A survey of medical students

Patients' attitudes to medical student presence within a university hospital setting

Flexor digitorum superficialis absence in the small finger: a tip on screening

Foreword

Welcome to the latest edition of the International Journal of Clinical Skills (IJOCS), Volume 7, Issue 1, January 2013.

When a medical emergency occurs in the pre-hospital environment, there might be an expectation from the general public for medical students to offer assistance with a similar level of competence as qualified doctors. However, the question is raised; do medical students have sufficient training in first aid skills to fulfil the role expected of them? Our colleagues at Queens University Belfast and Ulster Hospital, Northern Ireland, questioned over 500 medical students to identify knowledge of, and attitudes towards, first aid.

Researchers from Oxford University and Brighton & Sussex Medical School, United Kingdom, conduct a research study to identify patients' attitudes towards the presence of medical students within both inpatient and outpatient hospital settings. Does the involvement of medical students have a negative impact on patient satisfaction? Are patients comfortable being examined by medical students? Are patients aware of their right to refuse students' presence? Find out what the evidence shows.

Mr Lyndon Mason, University Hospital of Wales, United Kingdom, provides information on a screening tip for assessing the absence of flexor digitorum superficialis. This interesting technique illustrates the quadriga effect.

This issue also includes a review of Muhammed Akunjee *et al*'s book 'Clinical Skills Explained'. This book aims to explain essential clinical skills and associated rationale, structured into the three main themes of history taking, physical examination and procedures. Tracey Gregory (Lead Consultation Skills Trainer, University of Leicester, United Kingdom) gives her expert analysis of what the book provides for its readers.

As always, your feedback is invaluable for the continued development of the International Journal of Clinical Skills – the only peer reviewed international journal devoted to clinical skills (e-mail: feedback@ijocs.org).

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Does first aid have a place in the medical curriculum? A survey of medical students

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Abstract

Introduction: When a medical emergency occurs in the pre-hospital environment, there is an expectation from the general public for medical students to offer assistance with a similar level of competence as qualified doctors. However, the question is raised; do medical students have sufficient training in first aid skills to fulfil the role expected of them?

Prior to the publication of the latest version of *Tomorrow's Doctors* by the UK General Medical Council, a student selected component (SSC) in first aid was delivered at the medical school in Queen's University Belfast (QUB), Northern Ireland. The overwhelming popularity of this SSC prompted a desire to investigate and understand students' experiences of first aid.

Aim: To identify first and second year medical students' knowledge of, and attitudes towards, first aid and their expectations of the medical curriculum.

Methods: A questionnaire was delivered using TurningPoint Audience Response System® during the second semester of the 2008 - 2009 academic year to all first and second year medical students at QUB.

Results: Less than half of the students felt that they had a good level of first aid knowledge, a third would feel confident helping in an emergency and only 10% would be confident leading an emergency situation. The vast majority of students believed first aid is beneficial, that the general public expect medical students to have the knowledge to handle an emergency situation, and that a full first aid course should be included in the core medical curriculum at an early stage. They did not believe it should be a pre-requisite for medical school.

Conclusion: Only a small proportion believed their first aid knowledge adequate. An overwhelming proportion believed that first aid training is beneficial and that the public expect competency in managing emergencies. This study clearly demonstrates students' need and desire for first aid training in the core medical curriculum at an early stage and to the highest training level possible.

Introduction

When a medical emergency occurs in the pre-hospital environment, there is an expectation from the general public for doctors to offer assistance and to have the appropriate skills to manage the situation [1, 2]. There are numerous anecdotal reports of medical students also being called upon at pre-hospital emergencies with a similar expectation of obligation and competence [3 – 8]. However, the question is raised: do medical students have sufficient training in first aid skills to fulfil adequately the role expected of them?

In a survey of UK medical schools only a small proportion offered first aid training to their students [9, 10]. In the latest version of the UK General Medical Council's *Tomorrow's Doctors*, it has been acknowledged for the first time that medical students should be trained in providing "basic first aid" [11].

Prior to the publication of this latest version of *Tomorrow's Doctors*, a student selected component (SSC) in first aid was delivered at the medical school in Queen's University Belfast (QUB), Northern Ireland. The overwhelming popularity of this SSC prompted a desire to investigate and understand medical students' experiences of first aid.

Aim

The aims of this study were to identify first and second year medical students' knowledge of, and attitudes towards, first aid and their expectations of the medical curriculum.

Method

Following a literature review, a working group developed a questionnaire to explore the aims of this study. The questionnaire was structured into three categories – the demographics, the extent of students' knowledge of first aid, and lastly, students' attitudes towards first aid and their expectations of the medical school's curriculum.

The survey was conducted during the second semester of the 2008 - 2009 academic year at QUB. The university offers a five year medical degree programme comprised mostly of undergraduate entry. All first and second year medical students were invited to participate; there were 528 eligible students. The questionnaire was limited to years one and two as it was easier to deliver the questionnaire to the pre-clinical years, and we wanted the opinions of those who had not yet entered clinical training.

The questionnaire was delivered at the start of a practical skills teaching session. For these sessions, each year is divided into four groups of approximately 60 students per group. The same teaching session is run on four afternoons over a two week period, with each group attending once. As the questionnaire had to be delivered to each of the four groups for each year, it was conducted eight times in total over a two week period. We believed a randomly selected sample could be misrepresentative of the two years' opinions, and that the alternative available methods of delivering the questionnaire and collecting data, when only a proportion of the students are invited to participate, could lower the response rate and introduce bias (as certain people would be more likely to respond than others). In this regard, the whole cohort of 528 students was invited to participate.

The questionnaire was delivered using TurningPoint Audience Response System®: responses were yes/no answers, choosing an option from a numbered list or using the Likert scale provided; i.e. no free responses were possible. The results were analysed using simple descriptive analysis.

Due to the varied number of responses between questions, statistics have been calculated as a percentage of those students responding to that particular question, as we do not know if this variation was due to students not wishing to respond, failed use of handsets or hardware/software malfunction. Raw data is included to aid interpretation.

Ethical approval for this study was obtained from Queen's University Belfast Ethics Committee (Reference 08/29).

Results

Response rate

All 528 medical students from the first and second years were invited to participate: 477 students responded (90.3% response rate). Students were not obliged to answer every question: the number of responses per question ranged from 426 to 477, with an average of 469 responses per question.

Respondents' characteristics

60.2% of respondents were female (281/467). The modal age was 19 years (40.6%, 191/471), followed closely by 20 years (34.6%, 163/471), 18 years (10.2%, 48/471), and 21 years (7.6%, 36/471), with over 21 year olds making up the remainder (6.8%, 32/471). Less than ten percent (8.9%, 42/474) had completed a previous degree.

Respondents' knowledge

On analysis of the respondents' prior training, 47.0% (218/464) had previous formal first aid training; in addition, 9.7% (46/474) had further training with oxygen and 15.4% (73/474) were trained in the use of an automated external defibrillator (AED).

In respect of certification with one of the three well-recognised UK first aid bodies (British Red Cross, St John Ambulance and St Andrew's Ambulance), 19.9% (94/472) currently held a first aid certificate and a further 10.0% (47/472) previously held a certificate at some stage.

Students were asked a series of questions regarding their knowledge of first aid using a five-point Likert scale; the responses included strongly agree, agree, no strong views, disagree and strongly disagree. Where the five-point Likert scale was used, unless stated otherwise, figures quoted in this paper equal a summation of the 'strongly agree' and 'agree' responses for questions.

Of those responding, 43.5% (206/474) believed they had a good knowledge of first aid and 36.0% (169/469) would feel confident helping in an emergency medical situation. However, only 10.1% (43/426) would feel confident leading an emergency medical situation (Table 1).

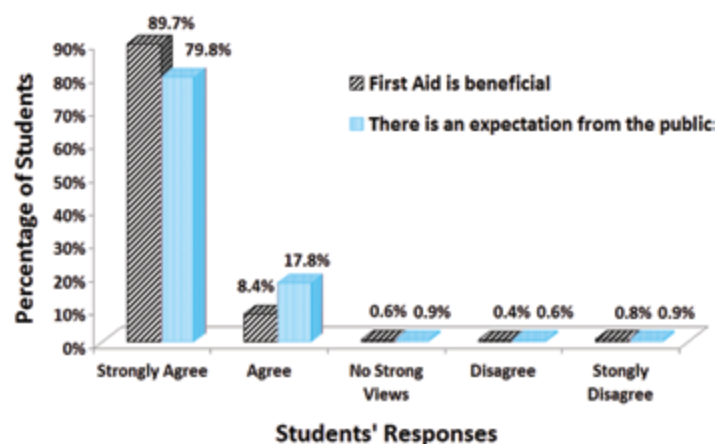
Table 1: Summary of the medical students' pre-existing knowledge of first aid (figures equal the summation of the "strongly agree" and "agree" responses on the five-point Likert scale)

Question Number	Statement	Percentage of Students	Number of Students
Q 7	Currently I have a good level of first aid knowledge	43.5%	206
Q 8	Currently I would feel confident in helping with an emergency situation	36.0%	169
Q 9	Currently I would feel confident in leading an emergency situation	10.1%	43

Medical students' attitudes towards first aid

98.1% (468/477) students thought first aid training is beneficial to medical students: 89.7% (428/477) strongly agreed and 8.4% (40/477) agreed. 97.7% (460/471) believed there is an expectation from the general public that medical students should know what to do in a pre-hospital medical emergency (Figure 1). However, only 56.7% (270/476) felt they had an obligation, as a medical student, to assist.

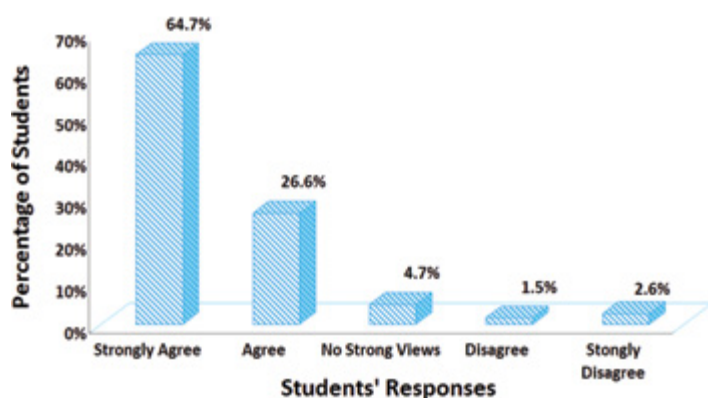
Figure 1: Graph to show students' responses, on a five-point Likert scale, to the statements (a) "First aid training is beneficial to medical students" and (b) "There is an expectation from the general public that medical students should know what to do in an emergency medical situation"



Medical students' expectations of first aid in the medical curriculum

91.3% (429/470) think first aid should be included in the core medical curriculum, with 64.7% (304/470) strongly agreeing and 26.6% (125/470) agreeing (Figure 2). When asked about the appropriate timing and extent of training, 86.4% (407/471) believed training should be provided in the pre-clinical years (Years 1 and 2 at QUB) and 78.3% (361/461) believed the highest level possible should be provided, which included Basic Life Support (BLS), use of oxygen and an AED, and a full first aid course.

Figure 2: Graph to show students' responses, on a five-point Likert scale, to the statement "First aid training should be included in the core medical curriculum"



Although the majority of medical students surveyed thought first aid training to be valuable, only 12.6% (60/476) believed first aid training should be a pre-requisite for medical school. In contrast 43.9% (209/476) disagreed and 32.4% (154/476) strongly disagreed when responding to the statement "first aid training should be a pre-requisite for entry to medical school" (Table 2).

Table 2: Summary of medical students' expectations with regard to first aid in the medical curriculum (figures equal the summation of the "strongly agree" and "agree" responses on a five-point Likert scale)

Question Number	Statement	Percentage of Students	Number of Students
Q 18	First aid training should be a pre-requisite for entry to medical school	12.6%	60
Q 19	First aid training should be included in the core curriculum	91.3%	429

Similarities & differences between the responses of the first and second year medical students

The questionnaire was delivered to all first and second year medical students at QUB. 255 out of a possible 261 first year students responded, providing a first year response rate of 97.7%. 224 of a possible 267 second years responded with a second year response rate of 83.9%. It was noted there were some differences between the two year groups.

52.6% (133/253) of first year students believed they had a good level of first aid knowledge compared to 33.0% (73/221) of second year students. 46.4% (116/250) of first year students felt confident helping with an emergency situation compared to 24.2% (53/219) second year students.

Interestingly, both year groups were equally *unconfident* in respect of leading an emergency medical situation: 77.1% (195/253) of first years and 84.4% (146/173) of second years disagreed or strongly disagreed when responding to the statement "currently, I would feel confident leading an emergency medical situation".

First year students felt a greater obligation to help at a medical emergency than second year students: 62.8% (159/253) compared to 49.8% (111/223) respectively. However, a greater proportion of second years believed first aid training should be included in the core curriculum: 95.5% (211/221) compared to 87.6% (218/249) second year and first year students respectively.

Year groups' views were similar with respect to first aid training: 97.6% (248/254) of first year students and 98.7% (220/223) of second year students agreed or strongly agreed that first aid training is beneficial for medical students. In addition, both groups believed there is an expectation from the general public that medical students should know what to do at an emergency medical situation: 96.8% (240/248) of first year students and 98.7% (220/223) of second year students.

Both year groups agreed equally that this training should be in the pre-clinical years (Years 1 and 2), with almost 80% suggesting Year 1. Again, almost 80% of both year groups agreed teaching should be to the highest level, including BLS, oxygen and AED, and a full first aid course.

Discussion

The results of this study provide us with the opinions and experiences of a large cohort of first and second year medical students. The students appear to value first aid and consider it to have a place in the medical curriculum. They believe there are expectations from the general public for medical students to help in emergency situations; however, concerns regarding confidence in handling such situations are evident. Trends and

anomalies in the data collected will be considered, along with our suggested explanations for their occurrence.

Firstly, the response rate varied between questions; the students were not obliged to answer all questions, so may have chosen not to answer a particular question, or they may have failed to answer in the time allowed, or they may have thought they had indeed answered the question, but in actual fact the keypad equipment failed.

Approximately the same number of students felt they had a good level of first aid knowledge as those that had undertaken previous first aid training; it is possible these are the same students, explaining the confidence. If this is the case, it is reasonable to assume the rest of the students did not feel they had a good knowledge of first aid as they had never completed any training.

Although some students feel they have a good knowledge and/or may have completed training, they are not confident putting their knowledge into practice in an emergency situation. This highlights students' need to practise their theory and skills in a safe environment, for example, with simulated patients.

There was a significant difference between the students' confidence helping with an emergency situation and leading one; the latter finding is perhaps because they interpreted 'helping with an emergency situation' as a scenario where they would be given clear instructions by a trained person and would thus not require any first aid knowledge of their own. Alternatively, the latter setting forces them to envisage themselves more clearly in such a situation, and they realise the gravity of the circumstances and the limitations of their knowledge.

Of the 47% that had undertaken formal first aid training, 19.9% currently held a certificate (completed within the last three years), and 10.0% had previously held a certificate (completed more than three years ago) obtained through one of the three well-recognised UK first aid bodies: British Red cross, St John Ambulance or St Andrew's Ambulance. These figures confer that although nearly half of the students have completed first aid training at some point, a quarter of the qualifications gained with the recognised bodies are out of date, meaning knowledge and insurance are potentially invalid. It is not known where the remaining 17.1% of students who had formal first aid training received their teaching as the questionnaire did not permit free responses. Thus, the quality of their teaching course, type of qualification and insurance status is unknown. This highlights the need for a single, standardised course, with all the relevant information pitched at an appropriate level for medical students to be included within the medical curriculum, so medical students can practise first aid safely, in the knowledge that their skills and insurance are up-to-date.

The belief that there is an expectation from the general public for medical students to have the knowledge to handle an emergency situation probably explains why a similar, significant proportion of students value first aid and wish for it be provided at medical school. Both these findings again emphasise the need for its inclusion within the medical curriculum.

There was ambiguity regarding the statement "medical students have an obligation to assist in an emergency medical situation", as students enquired verbally if this obligation was legal or moral. In hindsight, the question was vague and therefore responses were affected by differing interpretations. In addition, many students perhaps do not actually know their legal status regarding such matters and therefore could not have answered the question accurately.

We surmise a majority of students disagreed or strongly disagreed with the statement "first aid should be a pre-requisite for medical school" as many would not have obtained a place

had they been required to have a first aid qualification. Currently, those who have a qualification prior to medical school have an advantage in their applications and personal statements. To request first aid as a pre-requisite levels the playing field and devalues those who have a genuine interest and dedication to first aid. Financially, and with regard to time, students may also find it difficult to complete a full first aid course in late secondary school due to the pressures of their studies. Lastly, first aid organisations have limited places and resources; a rush of ten thousand or more students a year would be overwhelming. In view of these facts, there is an ever-present danger in requesting first aid as a pre-requisite, in that it could discourage students from applying.

A significant proportion desired first aid training as early in the course as possible. This coincides with students' beliefs that the general public have expectations and that first aid is beneficial, and suggests that students wish to undergo preparation for such a situation as soon after entering medical school as possible. The format of the questionnaire allowed students to choose one year only in which they wished to see first aid included. However, as the questionnaire was being conducted, students asked if the training could be provided in multiple years, suggesting preference of training on more than one occasion, possibly continually throughout their course.

Similarities & differences between the responses of the first and second year medical students

The response rate of first years was much higher than that of second years. This could be due to less second years choosing to participate, however, it is also possible, considering the questionnaire was delivered during a practical teaching session, that more second year students failed to attend their scheduled teaching and therefore missed the delivery of the questionnaire to that group of students.

More first year students had previous first aid training than second year students which could explain why significantly more first year students believed they had a good level of first aid knowledge and more would feel confident helping in an emergency situation. Alternatively, first year students are, anecdotally, more over-confident than second years: students perhaps realise more the limitations of their knowledge as they progress through their training. Interestingly, both year groups were equally not confident about leading an emergency medical situation, suggesting students may realise the limitations of their professional competence to a certain degree.

Although agreeing equally that first aid training is beneficial and that there is an expectation from the public that medical students should know how to handle a pre-hospital emergency, both year groups were divided over their obligation to assist in such a situation. This was likely due to the reasons discussed above. However, slightly more first year students felt an obligation to help at a medical emergency than second year students, again attributable to over-confidence or because a greater proportion of first years had previous first aid training. More second year students believed that training should be included in the core medical curriculum, which coincides with their lesser confidence in the emergency situation and fewer having had training in the past.

Limitations

The findings of this study have to be considered within its limitations. The questionnaire we used was not validated by prior research. Although the response rate was good, the questionnaire was conducted in one UK medical school only, and therefore may or may not be applicable to all schools in the UK. To improve generalisability, it would be necessary to deliver the same questionnaire at other UK medical schools.

In addition, only first and second year students (i.e. pre-clinical students) were invited to participate. Third, fourth and fifth year students were not given the opportunity to express their views; the findings may or may not be applicable to students further advanced in their training, and there may be a changing opinion as students progress through their medical career.

The method used to deliver the questionnaire meant that following completion of the questionnaire, it is possible that students may have discussed its contents with colleagues who had yet to participate, which may or may not have affected responses.

Conclusion

Only a small proportion of students believed their first aid knowledge was adequate. An overwhelming proportion thought first aid training beneficial and that the public expect competency in managing emergencies. Students believe first aid should be in the core curriculum, during pre-clinical years to the highest training level possible.

Following these findings and the UK General Medical Council *Tomorrow's Doctors* recommendations, the QUB first year core curriculum included a full first aid course for the first time in 2010 – 2011 academic year.

Future research should include surveying other UK medical schools, improving generalisability of results, and sampling the public to ascertain expectations of students' first aid knowledge.

Declarations

The authors have no financial or other interests to declare in relation to this paper.

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