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Letter to the Editor

Medical students teach Basic Life Support to non-medical students: A pilot study


Sir,

Mortality following Cardiac Arrest (CA) is highly correlated to the quality of first responders' Basic Life Support (BLS).¹ Many studies highlight the lack of knowledge and poor quality of BLS provided by both the general population and by medical students.^{2,3} We recently introduced a simulation based course on BLS for our medical students.⁴ In a project entitled « See one, Do one, Teach ten », we aimed to combine the teaching of BLS to medical students and to their non-medical student peers of our university. The objectives of the present study were to assess the feasibility of this project in a pilot group, and evaluate the performances of non-medical students in BLS after a simulation based course performed by medical students.

In 2012, fourth year medical students participated in two two-hour sessions of simulation based teaching on BLS, with a low fidelity manikin (Resusci Ann, Laerdal®). Ten of those medical students were then asked to teach a similar one-hour course to 100 non-medical students (one medical student taught ten non-medical students). Two months after the course was completed, we randomly tested ten non-medical students on the quality of

their BLS, using a modified and simplified Cardiff Score,^{3,5} derived from recent recommendations of the International Liaison Committee on Resuscitation.⁶

We evaluated ten non-medical students with a low fidelity manikin on a simulated out of hospital cardiac arrest scenario. They have had no previous BLS course except for the one provided by our medical students. 100% called immediately for help and looked for signs of life, 90% used the correct hand position for chest compression, and compressed the chest at a rhythm higher than 100 per min in 100% of cases. The automated external defibrillator was correctly placed and used in 100% cases. Median depth of chest compression was 5 cm and higher for 20% of students (Table 1). All students scored more than 80% in the modified Cardiff score, what is considered as excellent.

After a short simulation based course, medical students appear to be effective in teaching BLS to the public. The Cardiff scores we report from non-medical students are excellent. Only median depth of compression was considered insufficient in regards to recent guidelines, as often seen in previous trials.^{7,8} This preliminary study highlights the possibility to develop at a large scale the training of laypersons by our medical students, after a short course of simulation based teaching on BLS. In our medical school, it is a yearly census of 360 medical students in each year, which could then train 3600 of their non medical peers of the university. Of note, being instructed to teach then sent to teach has been proven more effective than with traditional approach.⁹

Table 1
Evaluation and Cardiff score for non medical students.

Non medical student	1	2	3	4	5	6	7	8	9	10
Sex	M	F	M	F	F	F	F	F	F	F
Check responsiveness by talking	1	1	1	1	1	1	1	1	1	1
Check responsiveness by shaking	1	1	1	1	1	1	1	1	1	1
Call for help and dial 112	1	1	1	1	1	1	1	1	1	1
Hand placement during compression										
Correct (3)	3	3	3	3	3	3	3	3	3	3
Too low (2)										
Wrong (1)										
Not attempted (0)										
Median compression depth										
>50 mm (4)	4		4							
40–50 mm (3)										
30–40 mm (2)				2	2	2	2	2	2	
Less than 30 (1)		1								1
Not attempted (0)										
Number of compression in 2 min										
>200 (5)										
160–200 (4)	4	5	5	4	5	5	4	5	5	5
120–160 (3)										
80–120 (2)										
Less than 80 (1)										
Not attempted (0)										
Hand off time in 2 min										
<40 s (3)	3	3	3	3	3		3			3
40–60 s (2)								2	2	
60–90 s (1)						1				
>90 s (0)										
Use of Automated External Defibrillator										
Correct and immediate (2)	2	2	2	2	2	2	2		2	2
Delayed or misplaced (1)								1		
Not attempted (0)										
Total Cardiff score/20	19	17	20	17	18	16	17	16	17	17

Conflict of interest statement

We have no conflict of interest.

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