CAN WE TEACH BLS IN A DIFFERENT WAY?

Comparative study between the standard course and a shorten version with a preceding online phase.

Cerdá M^a, Castillo J^{a, b}, Carmona F^{a, c}, Subirana P^a, Quintana S^{a, d}, Giraldo JM^a, Balanzó X^a, Molina L^c. a-Consell Català de Ressuscitació, b-Univertitat Internacional de Catalunya (UIC), c-Tecnocampus Mataró-Universitat ompeu Fabra(UPF), d-Escola Gimbernati-Universitat Autònoma de Barcelona (UAB)

PURPOSE OF STUDY

Since ERC guidelines 2005¹, increasing access to various modalities of training has been encouraged as alternatives to the traditional BLS on-site teaching methods. But the evidence^{2,3} is based mostly in papers with a small and heterogeneous sample size, difficult to compare and not randomized⁴.

We are presenting the definitive results of the study⁵. The aim is to compare if standard BLS teaching methodology (control) is equivalent to blended learning course (intervention) in university centres.

MATERIAL AND METHODS

A randomised controlled trial comparing control group (CG) with traditional ERC on-site teaching and intervention group (IG) with blended teaching methodology, on-line and on-site (Table 2).

The participants are first year college students with no previous BLS knowledge. They signed a consent form and the pilot was authorized by the universities ethic committees.

CG had a standard BLS on-site teaching 4 hours ERC course. IG had 2 hours online teaching, using the moodle platform, and 2 hours hands-on session ("Moodle" consisted in course manual, tasks and videos of all the skills, viewing steps 1 and 2 of the 4 steps methodology).

Both groups had the same instructors. A 10 question MCQ was used to evaluate the theoretical knowledge and the CPR was evaluated using Laerdal Q CPR Resusci Anne mannequins.

We have used descriptive and inferential statistics with nonparametric techniques as we haven't assumed normality with the distribution of quantitative variables. Descriptive statistics with mean and interquartile range (IQR), and Mann Whitney's U test to compare groups.

RESULTS

330 candidates were randomly assigned to group control (176 – 53,3%) or intervention group (156). Age (mean 22 years), sex (51% women) and BMI (mean 23,5 kg/m²) were compared with no differences between groups (p=0.432). The results of theoretical knowledge and practical skills were similar in both groups (table 1).

CONCLUSIONS

The results were equivalents when comparing the traditional and the blended methodology. Hence the blended methodology could be considered an effective alternative to the traditional course in similar collectives, improving efficacy.

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Table 1. KNOWLEDGE AND SKILLS. CG vs IG.

Variable, Median (IQR)*	CG	IG	p
Global Score (%)	74 (28.5)	73 (33)	0.813
Hand On (Compression Fraction) (%)	69 (7.3)	69 (5.8)	0.980
Hands off, seconds	8 (3)	8 (2.5)	0.151
Correct Compressions, %	87 (30.5)	85 (33)	0.714
Correct hand position (%)	100 (1)	100 (1)	0.853
Mean compression depth (mm)	52 (9.5)	52 (9)	0.689
Correct release (%)	81 (59.3)	80 (59)	0.740
Correct compression frequency (%)	72 (69)	73 (67)	0.415
Mean compression frequency	110 (16)	108 (16)	0.431
Theoretical knowledge	9 (2)	9 (2)	0.432

IQR: Interquartil Range 25-75

Table 2. COURSE PROGRAMME. CG vs IG.

T	ESTANDARD ERC COURSE	↔	BLENDED	T
	Manual reading			
4h	Welcome Lecture 15 min Demonstration 15 min Skills: 4 steps methodology. Steps1 ^a , 2 ^a ,		e-learning Manual reading welcome Demonstration Skills: 4 steps methodology. Steps1 ^a , 2 ^a MCQ assessment	2h
	3 ^a and 4 ^a Simulations Recovery position FBAO Assessment Practical and MCQ	↔	Hands-on session Any questions? Steps 3 ^a and 4 ^a Simulations Recovery position, FBAO Practical assessment	2h