Straddle compared with conventional chest compressions in manikin model

Backgrounds: There are situations when cardiac arrest may occur in a confined space, making it difficult to kneel by the side of the victim; examples are in an aircraft or in an ambulance. Straddle CPR is technique help care the patients in confined space. But there is very little literature.

Objective: To compare the quality of chest compressions in Straddle chest compression with conventional chest compression in manikin model and study the comfortable and exhaustion of healthcare provider.

Methodology: This is an experimental study randomization into two different group, by using the SNOSE or Sequential numbered, opaque, sealed envelopes chosen through block of four randomization by dividing them into group A (Straddle chest compression) and group B (conventional chest compression). Each participants were performed maximum 4 minutes hands-only compression during chest compression, quality parameters from monitor defibrillator were recorded: compression rate and depth

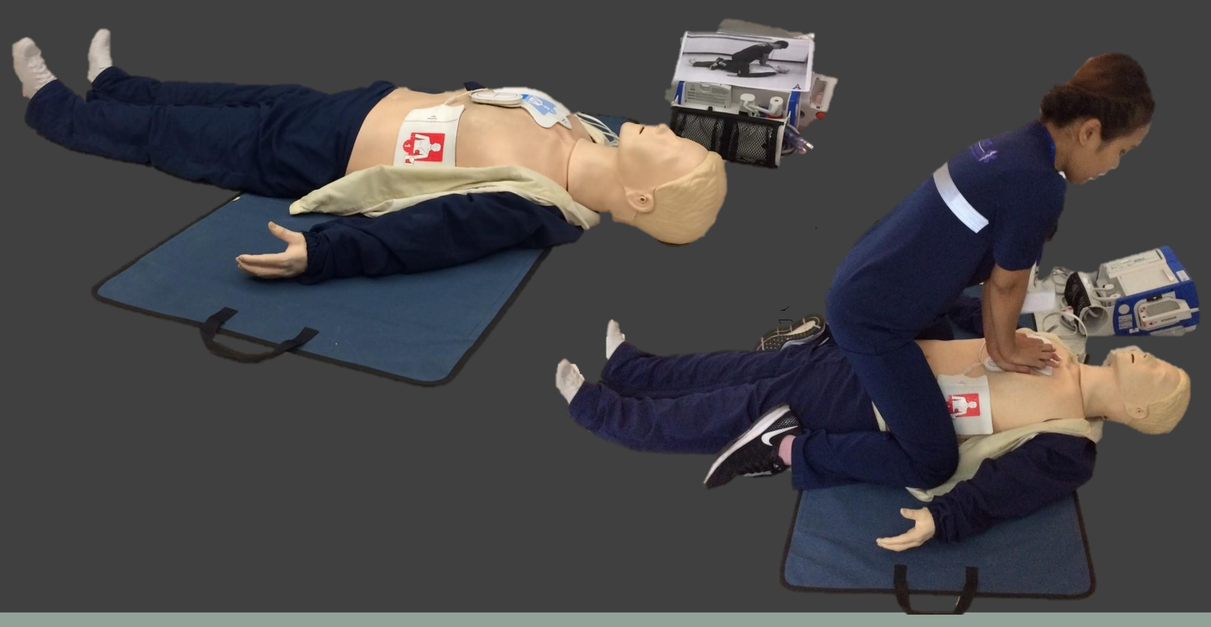
Result: 124 participants (Mean age 25.77 years and 27.58 percent are male, 40), the rate of chest compressions in conventional CPR and straddle CPR (126.18±17.11 and 127.01±21.01, p = 0.811) there is no difference. And depth (43.8±9.60) and 43.4±9.10), p = 0.830) there is no difference. Comfortable and exhaustion of participants from changes in vital signs, the two methods are different. Statistical significance However, no clinical significant difference.

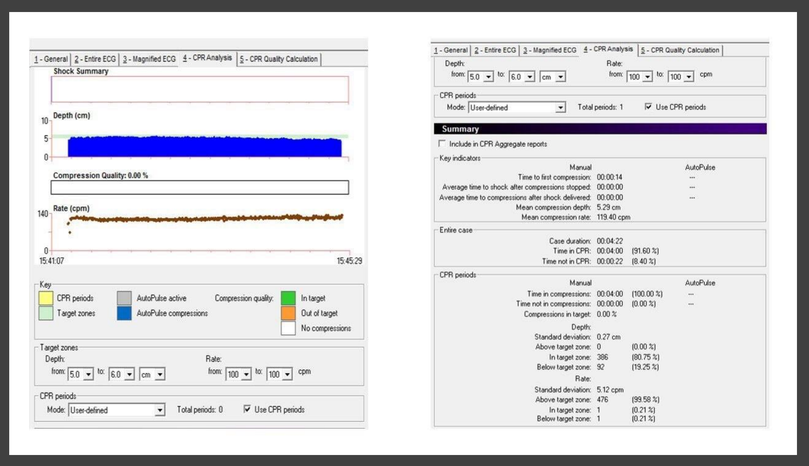
Quality of chest compression	Conventional chest compression (N=60)	Straddle chest compression (N=64)	P-value
Compression rate-per minute	126.18 (17.11)	127.01 (21.01)	0.811
0 to 1 min	126.89 (17.18)	127.47 (19.95)	0.863
1 to 2 min	125.97 (17.47)	125.84 (20.56)	0.971
2 to 3 min	124.23 (16.59)	126.02 (20.32)	0.634
3 to 4 min	124.43 (17.72)	121.81 (17.62)	0.539
Compression depth-per minute	43.8 (9.60)	43.4 (9.10)	0.830
0 to 1 min	45.6 (8.10)	45.7 (8.60)	0.945
1 to 2 min	43.18 (9.83)	43.0 (9.70)	0.937
2 to 3 min	41.89 (11.14)	39.76 (10.07)	0.325
3 to 4 min	39.9 (11.27)	39.2 (10.07)	0.767

Vital signs	Conventional chest compression (N=60)			Straddle chest compression (N=64)		
	Before	After	P-value	Before	After	P-value
SBP	125.53(18.16)	132.76(17.54)	<0.001	120.82(15.12)	131.82(13.72)	<0.001
Pulse rate	83.50(18.18)	93.58(15.39)	<0.001	79.89(13.86)	93.15(16.69)	<0.001
Respiratory rate	16.58(0.98)	23.87(3.38)	<0.001	16.29(0.71)	23.74(3.74)	<0.001

Conclusion: It was concluded that the quality of CPR using this straddle CPR technique was as good as conventional CPR.

The quality of chest compressions, the comfortable and exhaustion without different significant.





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