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Determination Of Cardiopulmonary Resusitation Effectiveness On The CPR Manikin

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Background:
Purpose

Many studies have shown that people who are applying cardiopulmonary resuscitation (CPR) can not make effective CPR after a while due to fatigue, etc. For this reason, it is aimed to determine the effective sustainability of CPR quality on CPR manikin by following the 2015 CPR guidelines.

Materials & methods :

In this study, which was carried out on 153 volunteer students from seven different health sciences programs of Izmir University of Economics. All students were trained about first aid and basic life support at last educational year. The time and effectiveness of CPR which the students applied on (ambu brand) CPR manikin were measured. The students' positions, blowing capacities, depth of pressures and effective pressure durations were evaluated. Numerical data was analyzed by t-test. P value <0.05 was accepted statistically significant. The data were analyzed in the SPSS 21 program.

Results & discussion: The average age of the students was 20.32±03 years, average height was 169.20±26 cm, the average weight was 65.12±42 kg. The average CPR duration was 2.95±86 minutes, the average pressure depth was 4.33 cm, and the average blowing capacity was 0.6 liter. The position of the arm was correct in 78% of students. In 84% of the cases the application site was determined as correct. 60% of the

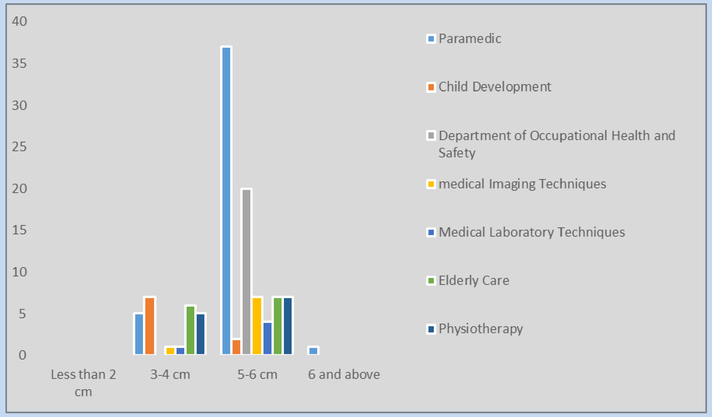
Table 1 Health programs inncluded in the research

Health programs inncluded in the research	Paramedic (n=43) (%)	Child Development (n=32) (%) (n=...) (%)	Department of Occupational Health and Safety (n=20) (%)	medical Imaging Techniques (n=22) (%)	Medical Laboratory Techniques (n=9) (%)	Elderly Care Prog (n=15) (%)	Physiotherapy (n=12) (%)	Total (n=153) (%)	P
Ventilation Activity?									
adequate	38	0	0	0	1	0	0	39	
Less than adequate	2	0	12	1	4	0	2	21	
Completely inadequate	3	32	8	21	4	15	10	93	
Total	43	32	20	22	9	15	12	153	000
Cpr Location Suitability?									
Appropriate	43	9	20	16	9	15	12	124	
Inappropriate	0	23	0	6	0	0	0	29	
Total	43	32	20	22	9	15	12	153	000
Arm Position Compliance?									
Appropriate	39	14	18	21	9	15	11	127	
Not available	4	18	2	1	0	0	1	26	
Total	43	32	20	22	9	15	12	153	000
Chest Compression Depth?									
Less than 2 cm	0	23	0	14	4	2	0	43	
3-4 cm	5	7	0	1	1	6	5	25	
5-6 cm	37	2	20	7	4	7	7	84	
6 and above	1	0	0	0	0	0	0	1	
Total	43	32	20	22	9	15	12	153	000
Chest Compression Time?									
2 min under	1	30	2	7	4	2	4	53	
2-4 minutes	19	2	12	12	4	12	5	66	
5-6 minutes	16	0	5	3	1	1	0	26	
7-10 minutes	4	0	1	0	0	0	0	5	
Over 10 minutes	3	0	0	0	0	0	0	3	
Total	43	32	20	22	9	15	12	153	000

There was a statistically significant difference between the 7 groups (p <0.005). Sufficient compression ratios, blowing capacities and effective CPR times were found to be higher in paramedics than in the other students(p <0.005).

Although the performance of the paramedics is better than the other groups, the effective CPR has not lasted long enough.

Table 2 Chest Compression Depth



Conclusion & perspectives: CPR is a very <u>important</u> technique that increases the chances of survival. However, this practice is ineffective if not implemented correctly and timely. In this study on mannequin, manual CPR showed that it was ineffective after a while.

<u>This shows that this is a very important shortcoming in the field that there are seconds between life and death. for this reason, it is of great importance to produce and operate auxiliary robotic equipment for CPR in pre-hospital, ambulance and emergency departments</u>