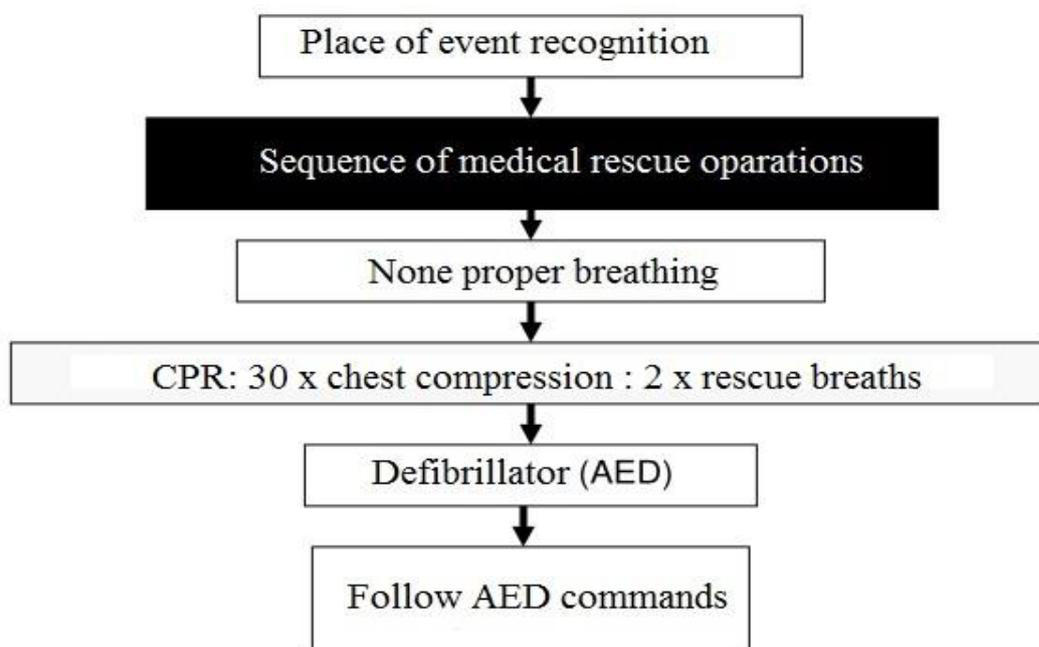


Supplementary material

Dudziński Ł, Glinka M, Wysocki D, et al. Quality analysis of chest compression during cardiopulmonary resuscitation performed by firefighters with physical effort. Kardiol Pol. 2021.

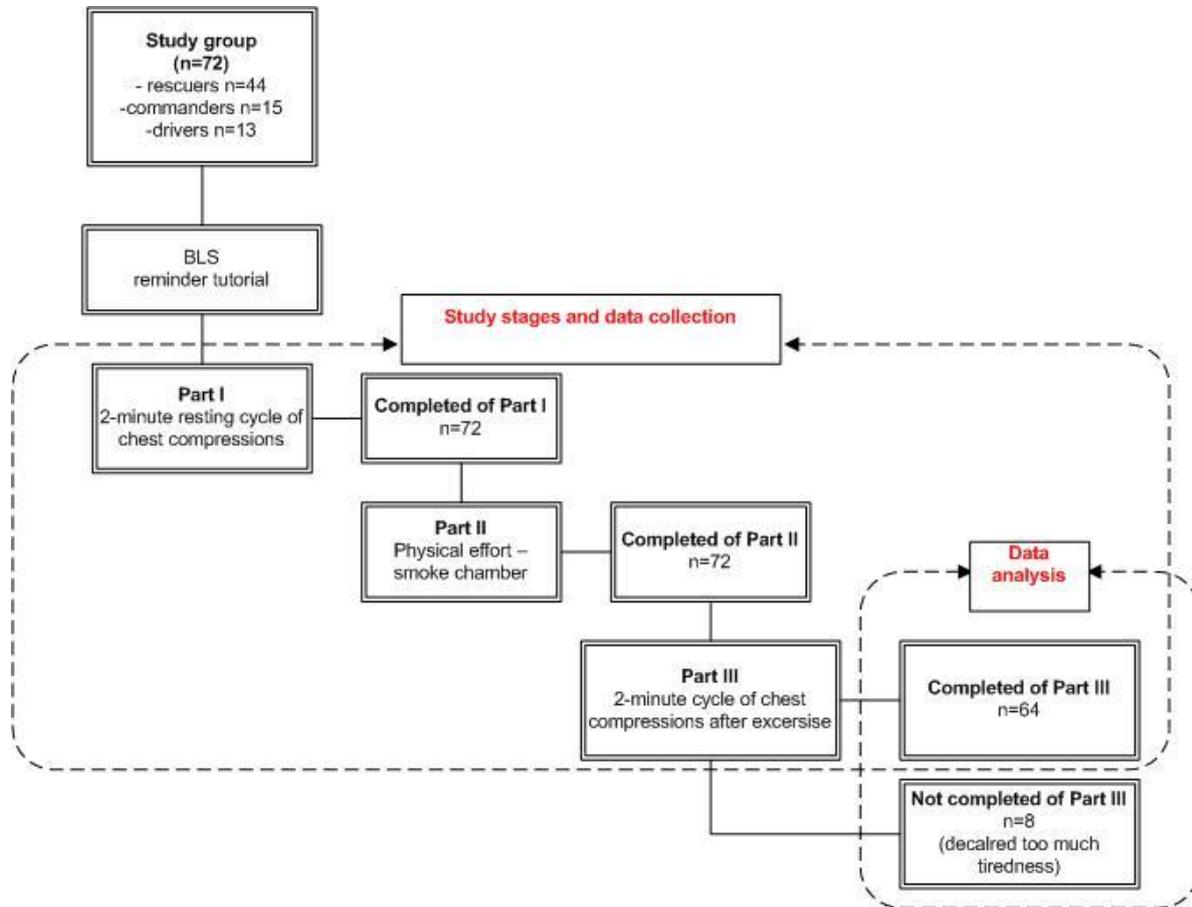
Please note that the journal is not responsible for the scientific accuracy or functionality of any supplementary material submitted by the authors. Any queries (except missing content) should be directed to the corresponding author of the article.

Figure S1. FAP 3 procedure – Adults CPR used in State Fire Service in Poland



AED- automated external defibrillator, CPR- cardiopulmonary resuscitation

Figure 2. Flow chart of study stages



BLS – Basic Life Support

Medical firefighter training system in State Fire Service

The basic medical training of professional firefighters is the qualified first aid course. A rescuers license obtained by a firefighter must be renewed at least once every 3 years as a recertification.

Statistical analysis

The database was primarily prepared with the use of MS Excel 2016 compatible with Windows 10. Raw data was transferred into STATISTICA version 13.3 software (TIBCO Software Inc., Palo Alto, California, United States). Quantitative variables, depending on the distribution, were described in the case of compliance with a normality assumption: mean (M) and standard deviation, or in the case of non-compliance with the normal distribution: median (Mdn) and semi-interquartile range (IQR / 2). The Shapiro–Wilk normality test was used to verify the normality of the distribution of quantitative variables. The comparison of the results between the measurement "At rest" and the measurement "After exercise" was calculated using the matched-pairs t-test (normal distribution) or the Wilcoxon signed-rank test (other than normal distribution). A P-value of less than 0.05 was considered to indicate statistical significance.

RESULTS

The average depth of compressions by firefighters at rest was lower than the required 50 mm. The authors suggest systematic verification of the quality of CPR by professional firefighters. The evaluation of the mean results for the whole group showed a statistically significant reduction in the depth of chest compressions during CPR performed after exercise.

During the study, the authors did not notice significant errors in the position of the hands in the center of the chest during compressions. To reduce errors in frequency of chest compressions, the authors suggest using an AED with a metronome function during real operations.