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Letter to the Editor

Mouth-to-mouth: An obstacle to cardio-pulmonary resuscitation for lay-rescuers

Sir,

It has been well demonstrated that both standard Cardiopulmonary Resuscitation (CPR) and compression-only CPR are crucial for cardiac arrest victims' survival,[1] however, despite the fact that about two-thirds of cardiac arrests are witnessed,[2] only one third receives bystander CPR[3] owing to lay rescuers' fears.[4,5] In this regard, we decided to investigate whether the presence of mouth-to-mouth ventilation (MMV) in the Basic Life Support (BLS) sequence could prevent bystanders from starting CPR both in the case of an unknown cardiac arrest victim (unknown group) and in the case of a relative or a friend (known group) and whether the willingness of lay rescuers to perform CPR could increase if MMV were eliminated from future guidelines. We collected 900 anonymous questionnaires (600 and 300 for the unknown and known group respectively) administered to all participants after each BLS-D course for lay rescuers performed according to the ILCOR 2010 Guidelines in our IRC-Comunità Training Center (Robbio nel Cuore) from December 2011 to May 2014.

Results in the case of an unknown cardiac arrest victim were rather unpromising: 35.2% of participants would perform standard CPR with MMV, 49.8% would practice compressions-only CPR and the remaining 15%, due to the presence of MMV, would not give any CPR. Moving to the more favorable case of a known cardiac arrest victim, results were more positive: 87.7% of participants would practice standard CPR with MMV, 7.6% would give compressions-only CPR and 4.7% would not do any CPR. Notably 98.9% of the 15% (14.8% of participants) in the unknown group and 85.7% of the 4.7% (4% of participants) in the known one, regardless of sex, age and level of education, would start CPR if MMV were eliminated from the BLS sequence and if chest compressions-only CPR were recommended in the new guidelines. This result was, for the majority of participants in both groups, due to less fear of infectious diseases. Combining these results, the percentage of lay rescuers prepared to practice CPR would significantly increase both in the case of an unknown cardiac arrest victim [85% (35.2% + 49.8%) with the current guidelines vs. 99.8% (85% + 14.8%) with chest compressions-only CPR guidelines, $p < 0.001$] and in the case of a known victim [95.3% (87.7% + 7.6%) with the current guidelines vs. 99.3% (95.3% + 4%) with new guidelines, $p = 0.004$], as the result of greater adherence to guidelines (35.2% vs. 99.8% $p < 0.001$ in the unknown group and 87.7% vs. 99.3% $p < 0.001$ in the known group) (Fig. 1). We can, therefore, conclude that MMV puts lay rescuers off starting CPR, even if they have learned during the course that they could refrain from performing mouth-to-mouth if they did not wish to do it.

From our point of view, the removal of MMV from the BLS sequence, favoring chest compression-only CPR, would significantly increase the willingness to perform CPR and the adherence to guidelines and would, hence, positively affect survival.

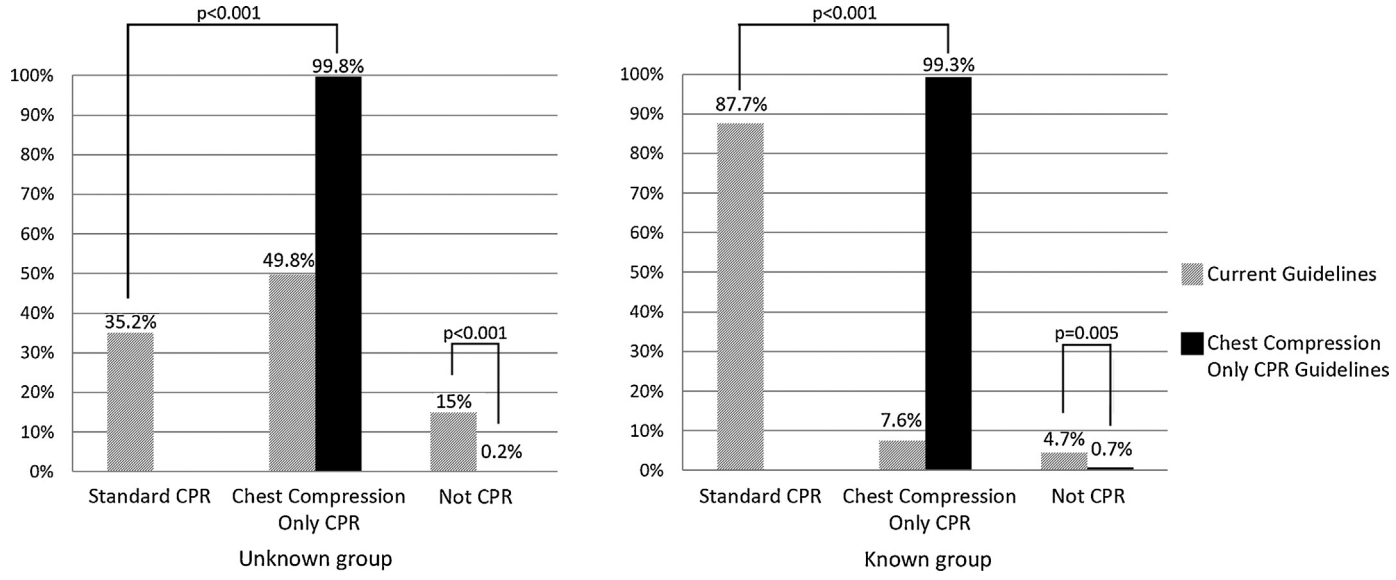

Fig. 1. This figure represents the adherence to guidelines in the case of an unknown victim (left side) or of a relative/friend victim (right side) of cardiac arrest. Notice how the adherence to guidelines would increase if mouth-to-mouth ventilation were no longer recommended.

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Conflicts of interest statement

None.

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