



MOUTH-TO-MOUTH: AN OBSTACLE TO CARDIO-PULMONARY RESUSCITATION FOR LAY-RESCUERS



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RESUSCITATION
2013
25-26 OCTOBER
KRAKÓW • POLAND

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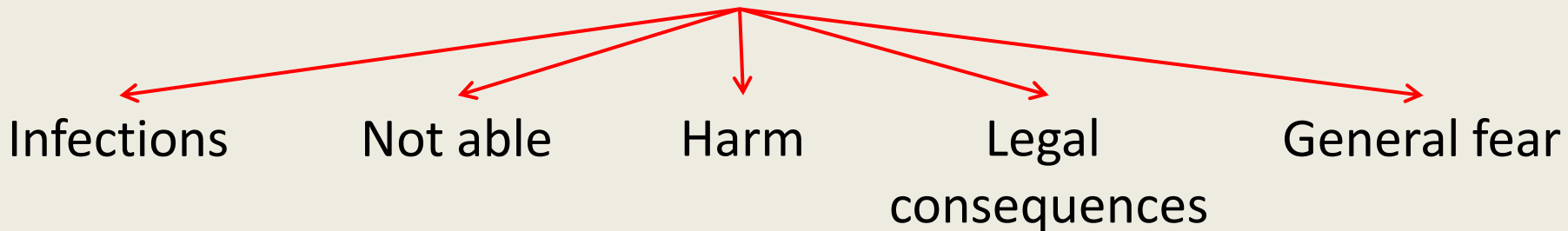
60 % of Out-of-Hospital Cardiac Arrests are witnessed

30 % receive cardio-pulmonary resuscitation

Why?

Lay people's lack of knowledge of CPR technique

Lay people's fear of performing CPR^{1,2}



1) Savastano *et. al.* Resuscitation. 2011 May;82(5):568-71.

2) Hubble *et. al.* Prehosp Emerg Care. 2003 Apr-Jun;7(2):219-24.

Purpose

To investigate whether the presence of mouth-to-mouth ventilation in the Basic Life Support (BLS) sequence could be an obstacle for lay-rescuers to perform CPR or not



Materials and Methods



We administered an anonymous questionnaire to all participants of our BLS or BLS-D courses (performed according to ILCOR 2010 Guidelines)

1. If necessary, would you be willing to do mouth-to-mouth (without protection) on a stranger? (Y/N)
2. Would the mouth-to-mouth in the CPR sequence deter you from carrying out resuscitation on a stranger? (Y/N)

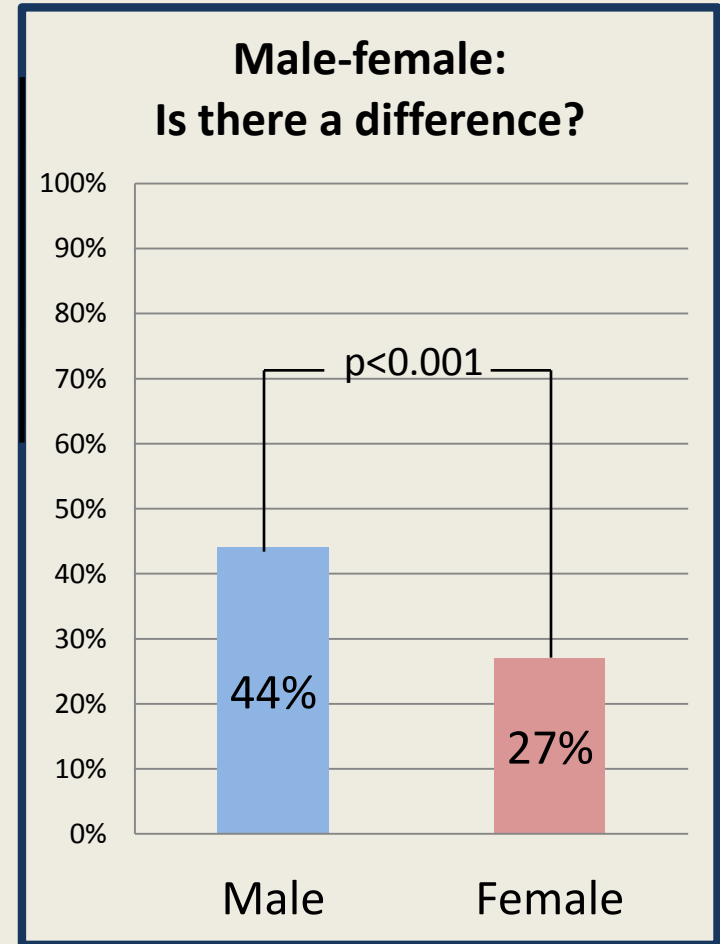
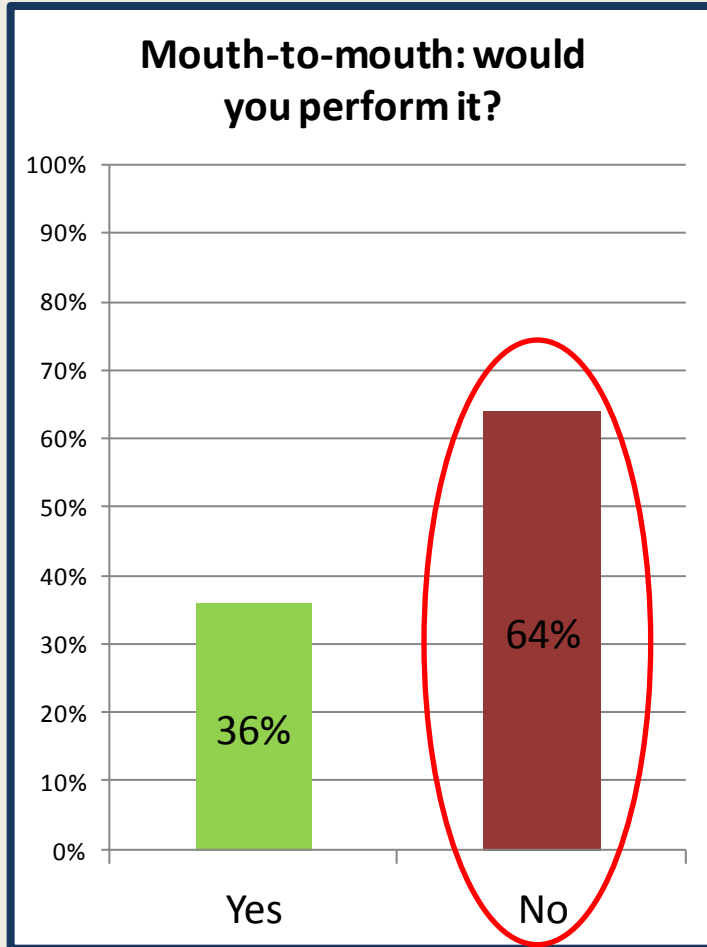
3. If the new guidelines were to eliminate the mouth-to-mouth stage, leaving only Chest Compressions, would you be more inclined to carry out resuscitation on a stranger? (Y/N)

4. Why? (If they answered yes to no.3)
 - Lower probability of infection due to the absence of mouth-to-mouth
 - Less disgust
 - Easier to remember sequence
 - Easier to perform sequence
 - Less fear of making a mistake

Population (entirely italian)

Total	385	
Type of Course		
BLS	129	33.5 %
BLS-D	256	66.5 %
Sex		
Male	200	52 %
Female	185	48 %
Level of education		
Primary school	5	1.3 %
Lower secondary school	63	16.4 %
Upper secondary school	231	60 %
Higher education	86	22.3 %
Age		
Mean (years)	36	
>36	197	51.2 %
≤36	188	48.8 %

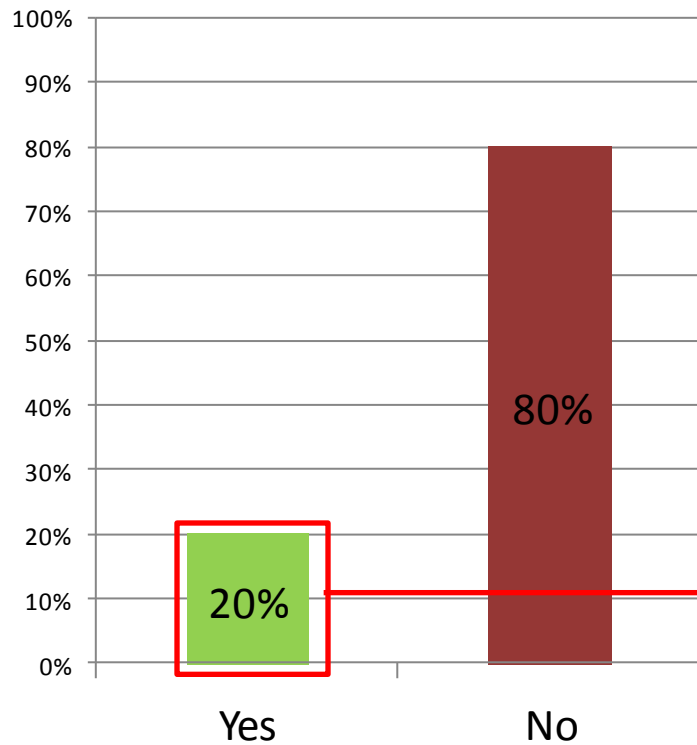
Results



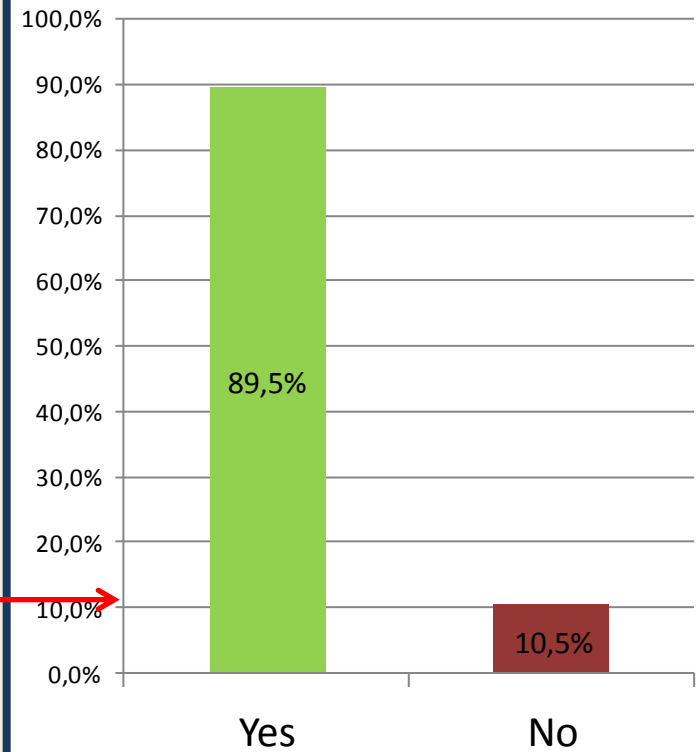
Level of education and age did not prove to be significant variables

Results

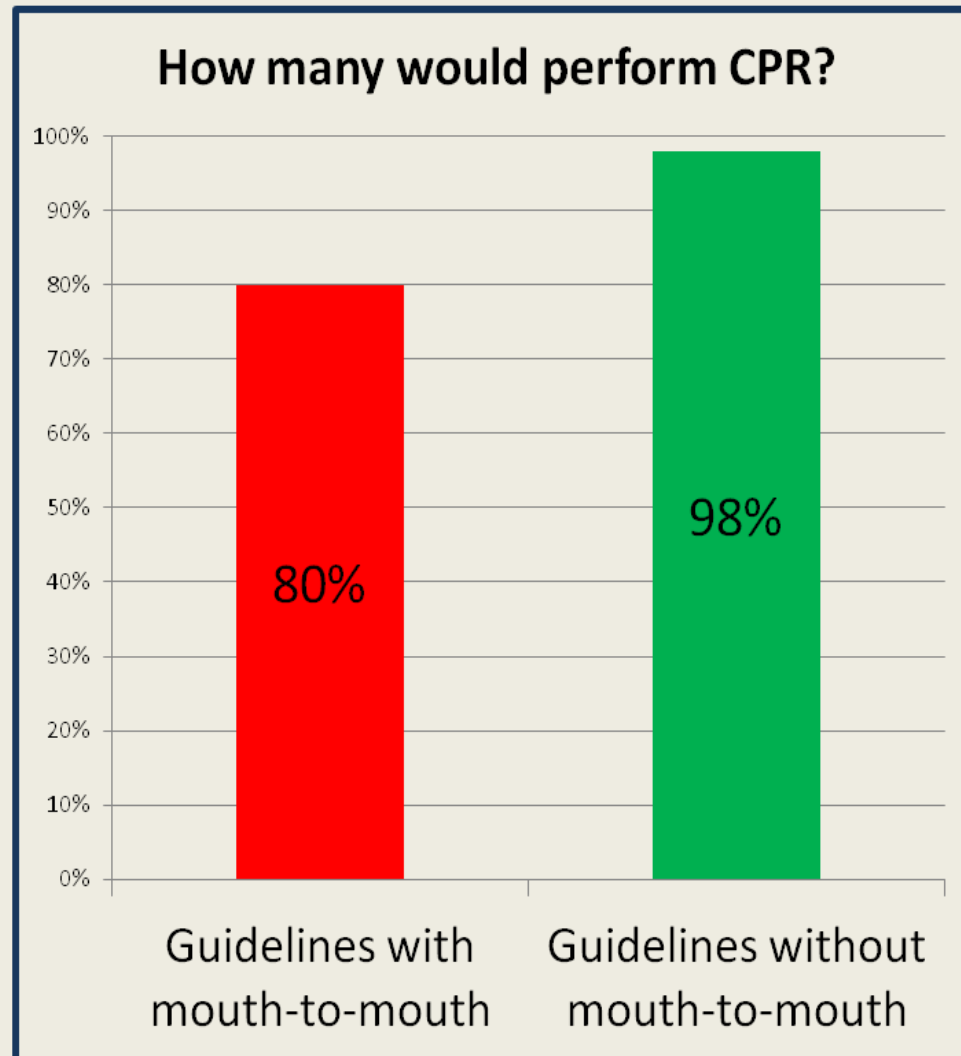
Would you not do CPR because of the mouth-to-mouth?



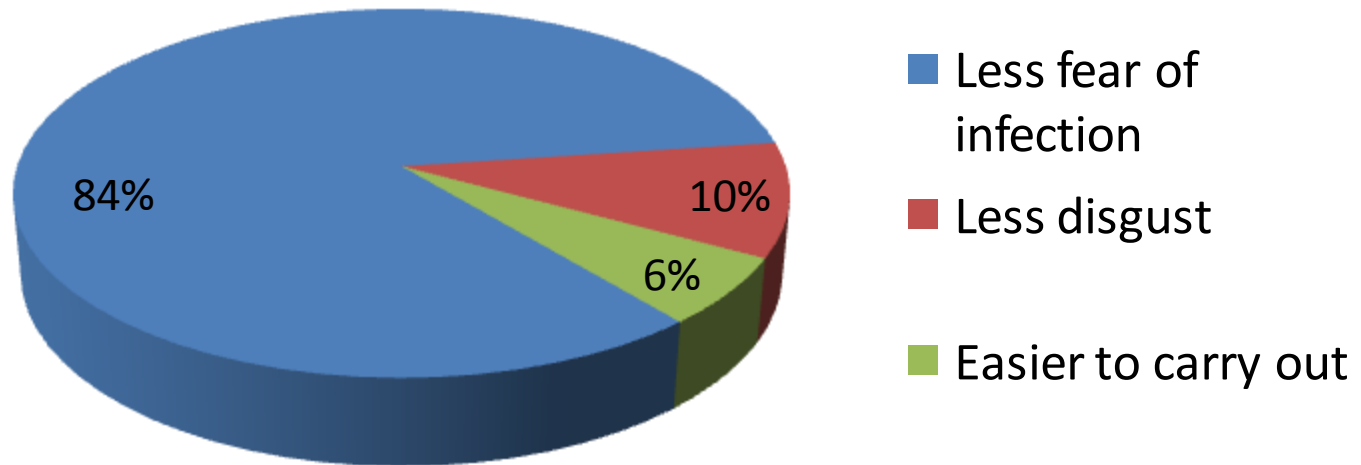
Would you be willing to perform CPR if mouth-to-mouth were eliminated?



Results



Guidelines without mouth-to-mouth: why lay rescuers would be more likely to perform?



Conclusions



- Only 36 % of trained lay-rescuers would be willing to perform mouth-to-mouth
- Mouth-to-mouth is an obstacle for 18 % of lay-rescuers to start CPR
- According to the results of this study, eliminating mouth-to-mouth from future guidelines would significantly increase the number of people willing to perform CPR

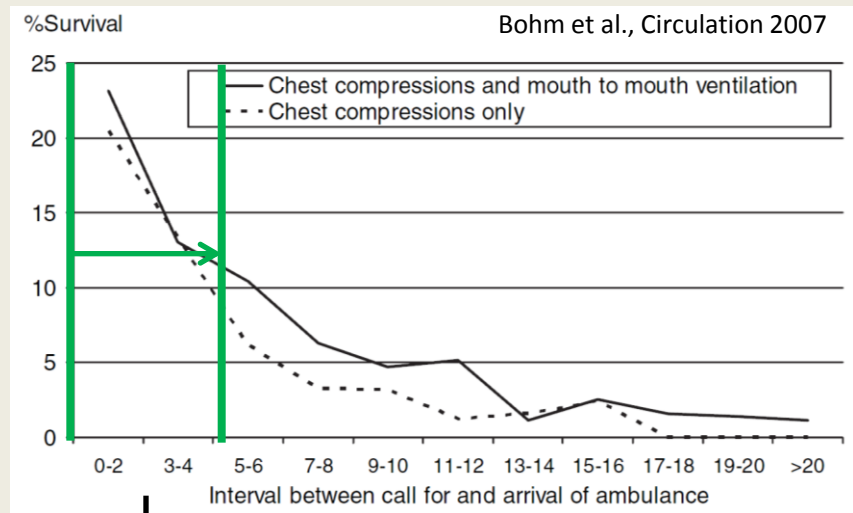
Future implications



ERC and AHA Guidelines 2010 recommended compression-only CPR for **untrained bystanders** or for **bystanders who are unwilling to give rescue breaths**

New evidence

Compression only CPR is as efficient or more efficient than standard CPR at least in the first 4/5 minutes^{3,4,5}



Most common time of lay-rescuer intervention

3) Bohm et al, *Circulation*. 2007;116:2908-2912

4) Dumas et al, *Circulation*. 2013;127:435-441

5) Japanese Circulation Society Resuscitation Science Study Group., *Circ J*. 2013 Aug 8.

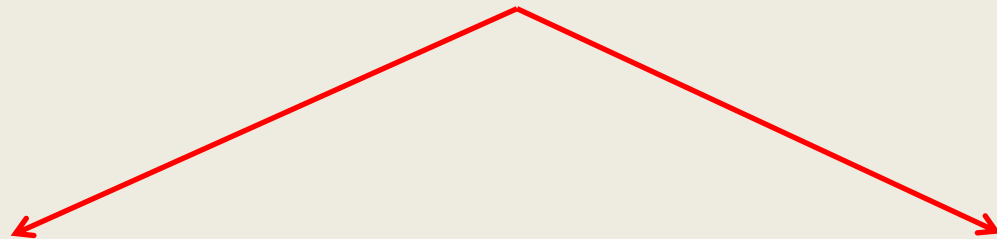
Future implications



If future studies continue to confirm that compression-only CPR is as efficient as standard CPR in the first minutes following a cardiac arrest

Point of view of lay-rescuers: trained lay people are not willing to perform mouth-to-mouth

Elimination of mouth-to-mouth from the Guidelines for lay-rescuers



More lay people would be willing to perform CPR on a stranger

More time to dedicate to teaching high quality chest compressions to lay people during BLS/BLS-D courses



Thank you!



Enrico Baldi