MOUTH TO MOUTH, WOULD YOU DO IT?

Ab. Sri Latha, Anandakumar, Abdullah Asad*. S & M. Rishya
Trauma and Emergency Department, University Malaya Medical Centre, Malaysia
• Corresponding author, Email: drabdullahasad@gmail.com

ABSTRACT

CPR training guidelines have evolved since 1970's. Changes were made to make CPR easier for the use of layman and to maximize the possibility of early resuscitation. The new CPR guideline for layperson (if not confident) includes chest only compressions without rescue breaths until help arrives. Studies have identified unwillingness to perform mouth to mouth ventilation performance of bystander CPR due to a significant psychological barrier.

This is a Phase One study aimed to determine first aid providers' opinion whether layman are willing to provide mouth to mouth ventilations in bystander CPR. Later, Phase Two study will be carried out via questionnaire directed at layperson, to compare with the outcome of Phase One study.

A cross sectional study was done, using questions based on the opinions of the participants regarding possible attitudes of layman in certain scenarios. The sample size consisting of 810 individuals (all CPR trained) were First Aid Providers: members of the St. John's Ambulance Services and the Red Cross Society. The ages of the participants ranged between 10 to 54 years, of which 54.8% are females and 45.2% are males.

Our study indicated that participants with background knowledge of first aid have different outlook as compared to laypersons, regarding mouth to mouth ventilations. In bystander CPR, hesitation about mouth to mouth ventilations is not a problem among first aid providers. The survey revealed that 42.2% of the laymen were ready to provide mouth to mouth ventilation to strangers compared to 25.9% who wouldn't. Moreover the person who were not confident about mouth to mouth ventilation could provide chest only compressions if in doubt. 42.2% of them agreed as compared to 29.1% who disagreed on this method. As suggested by AHA, a bystander who is trained and confident in CPR could use conventionally recommended CPR of 30: 2 compressions to ventilations ratio. Otherwise compression only CPR is recommended if a person is not trained or unwilling to give ventilations. Therefore our assessment suggested that execution of first aid and CPR programs amongst public community may generate positive attitude and confidence towards first aid intervention.

Key words: Cardio-Pulmonary Resuscitation (CPR), Disaster Medical Assistance, Mouth to mouth ventilation

INTRODUCTION

Since the 1970's, Cardio-Pulmonary Resuscitation (CPR) training guidelines have undergone several modifications. Changes were made to simplify CPR for layman to maximize the potential for early resuscitation (*AHA, 2005b*). The new CPR guidelines are made easy for amateurs. The CPR technique involves chest compressions only if the user is not confident, without rescue breaths until help arrives. Studies have indicated that bystanders are reluctant to perform mouth to mouth ventilations as CPR frequently, due to significant psychological barrier.

In one survey, only 15% of 975 respondents reported a willingness to perform chest compressions along with mouth to mouth ventilations on a stranger, whereas 68% would definitely perform only chest compressions (*Locke, et al., 1995*). 80% of the respondents were members of the common public and 20% were health care providers. Lin *et al.*, (*2004*) suggested that only 2% of participants in a study of 500 laypersons who attended in the training course of DMAT (disaster medical assistant team) would voluntarily perform CPR such as mouth to mouth ventilations.

In April, 2008, the American Heart Association (AHA) took steps to simplify the process of helping victims of cardiac arrest by introducing hands-only CPR. Since only 1/3 of people who suffer a cardiac arrest at home or at public place actually receive help, bystanders could be afraid to initiate CPR for fear that they will do something wrong or they are uncertain regarding the procedure to be applied. Others may be reluctant to perform mouth-to-mouth breathing for fear of contracting any infection.

STUDY OBJECTIVES:

This study is a Phase One study aimed to determine first aid providers' opinion whether layman are willing to provide mouth to mouth ventilations as a bystander CPR. Later, Phase Two study will be carried out via questionnaire directed for the layperson, to compare with the outcome of Phase One study.

METHODOLOGY AND INSTRUMENTS

A cross sectional survey, via questionnaire containing sections regarding demographic data, knowledge and training about CPR, willingness to give mouth to mouth towards strangers, awareness of DRCAB and the 2010 AHA guidelines for layman CPR was completed. Questions were based on opinions of the participants regarding possible attitudes of layman in above scenarios. Sample size was 810. The participants were First Aid Providers: members of the St. John's Ambulance Services and the Red Cross Society. All participants are CPR trained. The age of participants ranged from 10 to 54 years old. Out of which 54.8% are females and 45.2% are males.

CONCLUSION:

Our heart muscle is the only muscle tissue in the body that does not require an outside stimulus to contract. It happens automatically. The heart can pump blood even as the brain is trying to focus on breathing. When the brain loses the ability to direct breathing, the heart will still be pumping blood until it completely runs out of energy.

So the brain keeps air going in and out while the heart keeps blood going around and around. They work together, but they are independent. If the brain stops working, the heart can continue. Though if the heart stops, so does the brain (*Brouhard, 2008*).

A larger and more comprehensive study performed by AHA (*2008*), shows that in the studies of bystander CPR was better than no attempt at CPR and produced survival equivalent to conventional CPR.

Based on our study, it is realized that participants with background knowledge of first aid have different attitude as compared to laypersons when mouth to mouth ventilations is concerned. Hesitancy to provide mouth to mouth ventilations is not an issue for first aid providers when it comes to bystander CPR. Therefore their opinion on layman doing mouth to mouth on strangers when it is required is 42.2% as compared to 25.9% who were unwilling. In regards to their opinion on chest only compressions if in doubt to give mouth to mouth, 42.2% was the response as compared to 29.1% said they wouldn't. As recommended by AHA, a bystander who is trained in CPR and is confident enough can use conventional CPR with 30:2 compressions to ventilations ratio. Where else compression only CPR is recommended if one is not trained or unwilling to give ventilations (*Sayre et al., 2008*) Therefore our survey suggests that implementation of first aid and CPR programs amongst public community may create positive attitude and confidence towards first aid intervention.

RECOMMENDATIONS

The procedure for hands-only CPR is simple. When an untrained bystander notices an adult who suddenly collapses (after verifying that the person is unresponsive and is not breathing) should do just two things:

1. Call 999 (Emergency Telephone Number in Malaysia) or should send someone else to do this if the person is not alone, and if others are present, send someone to find an AED (automated external defibrillator).
   And
2. Push hard and push fast in the center of the chest. The rate should be fast, about 100 presses per minute, but it is not necessary to count the number of presses. Deep, rapid, continuous presses on the center of the chest should be continued until the victim awakens, or an AED is found or before an emergency personnel arrived.

Hands-only CPR eliminates the mouth to mouth breathing of conventional CPR (alternating 30 chest presses and two quick breaths). Although hands-only CPR is very effective, it is not as beneficial as conventional CPR in a patient who is not breathing (*Sayre et al., 2008*).

REFERENCES :

Becker, LB, Berg, RA, Pepe, PE, *et al.*, (1997). A reappraisal of mouth to mouth ventilation during bystander initiated Cardiopulmonary Resuscitation. Circulation. 96, pp 2102-12

Brouhard, R (2008). Why Mouth-to-Mouth during CPR is not necessary. The New York Times, Health Guide.

Lin, I-Y & Wang, T-L (2004). Analysis of layperson's attitude to perform mouth to mouth ventilation in Cardiopulmonary Resuscitation. Annals of Disaster Medicine. 2(2), pp 67-73.

Locke, CJ, Berg, RA, Sanders, AB, Davis, MF, Milander, MM, Kern, KB & Ewy GA (1995). Bystander cardiopulmonary resuscitation: concerns about mouth to mouth contact. Archives of Internal Medicine. 155(9), pp 938-94.

Sayre, MR, Berg, RA, Cave, DM, Page, MD RL, Potts, J & White, RD (2008). Hands-Only (Compression-Only) Cardiopulmonary Resuscitation: A Call to Action for Bystander Response to Adults Who Experience Out-of-Hospital Sudden Cardiac Arrest. A Science Advisory for the Public from the American Heart Association Emergency Cardiovascular Care Committee. Circulation. 117, pp 2162-2167.