Improving Cardiopulmonary Resuscitation Response Rates in the Durham Region to Enhance Sudden Cardiac Arrest Survival Outcomes

DRRRC
Durham Region
Resuscitation Research
Collaborative

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Background

Sudden cardiac arrest (SCA) is a leading cause of death in many parts of the world. Early bystander cardiopulmonary resuscitation (CPR) is a critical component to SCA survival; yet, bystander CPR rates remain low (Vaillancourt, Stiell, & Wells, 2008).

Barriers to CPR bystander response:

- Lack of knowledge or confidence in skills
- Cost of training programs
- Lack of interest/time
- Fear of legal consequences
- Risk to personal health
- Convenient CPR training location

(Vaillancourt et al., 2008).

Objectives

1. Identify effective strategies that improves public response to SCA victims.
2. Incorporate identified strategies into a comprehensive implementation plan for enhancing bystander CPR response in the Durham Region.

Methods

1. An electronic search was undertaken to identify existing strategies that enhance bystander response.
2. Medical databases PubMed and Proquest were used to find articles from 2005-2015, that were published in English, and contained full-text. Keywords included: cardiopulmonary resuscitation, bystander CPR and cardiac arrest.
3. In addition, white and grey literature that contained implementation guides in resuscitation science & practice was reviewed.

Results

A list of current training approaches that have demonstrated an improvement in bystander response are listed below (Table 1, Figure 1). Targeting youth, mobile applications and social media may also be a facilitator to learning and performing CPR (Bigham, 2014; DRRRC, 2014; Ringh et al., 2015; Sasson et al., 2013). These identified innovative approaches were incorporated into the implementation plan (Figure 2).

Table 1: Current approaches to provision of bystander CPR

- Reduce & simplify training content
- Shorten length of courses
- Chest-compression only CPR
- Increase # of people CPR-trained
- Public education
- Skills practice
- Education credits & incentives

(Vaillancourt et al., 2008)

Figure 1: Self-training CPR kit

(AHA, 2015)

Figure 2: Description of implementation strategies

Youth
- >13 yrs for physical ability
- Long-term = more adults trained in community
- Use educational credits to motivate CPR training

PulsePoint
- Mobile application using smart phones
- Activated through emergency communication centres
- Alerts CPR-trained bystanders

Social Media
- Platforms are being used for cardiac arrest topics
- Dominated by a younger demographic
- Can help to mobilize community partnerships

Discussion

The goal of this study was to identify effective strategies that enhance bystander CPR. The results indicate that current training approaches are breaking down the barriers to CPR bystander response, but no one strategy has been found superior (Vaillancourt et al., 2008). Results suggest that intervention designs should implement a variety of strategies, such as mobile applications and social media. This may help the Durham Region enhance bystander rates and improve survival from SCA. Testing the strategies in a real-world environment is required to inform the DRRRC on interventions that work .

Conclusion

To enhance bystander response, the DRRRC plans to:
- Work collaboratively with stakeholders to implement PulsePoint.
- Disseminate educational materials for CPR training for uptake in the target population.
- Study the implementation strategies and modifiable factors that enhance bystander CPR through questionnaires, interviews and focus groups (DRRRC, 2014).

References

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