A cross-sectional survey examining cardiopulmonary resuscitation training in households with heart disease.

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Background and aims

- Cardiovascular disease, most commonly heart disease (HD), is the leading cause of death internationally.
- Patients with HD are at high risk of repeat events, including out-of-hospital cardiac arrest (OHCA).
- Family members of patents with HD should be prepared for future emergencies and trained in cardiopulmonary resuscitation (CPR).
- The **aims** of this study were
 - To describe CPR training rates in households with HD
 - To examine if prior CPR training increases knowledge, confidence and willingness to perform CPR.

Methods

- A cross-sectional telephone survey with adults residing in the Australian state of Victoria in April 2016.
- The survey consisted of four sections: demographics, CPR knowledge, CPR training status and willingness to perform CPR.

Results

- Of the 404 respondents, 78 (19.3%) reported the presence of HD in their household.
- Respondents with HD in their households were more likely to be >75 years (Table 1).
- There was no difference in CPR training rates between households with and without HD. (Figure 1).
- There were no significant differences in **reasons for not undertaking CPR training** between groups, with primary reasons being:
 - never having thought about it (48.2%)
 - time (19.5%)
 - not knowing where to go to learn (11.6%)
 - cost (7.3%)

	Total (n = 404)	Households with HD (n=78)	Households with no HD (n=326)	p value
Male sex	167 (41%)	28 (36%)	139 (43%)	0.28
Age				
18 – 34 years	47 (12%)	3 (4%)	44 (14%)	<0.001
35 – 54 years	141 (35%)	25 (35%)	116 (36%)	
55 – 74 years	154 (38%)	28 (36%)	126 (39%)	
>75 years	62 (15%)	22 (28%)	40 (12%)	
Education				
High school graduate	100 (25%)	14 (18%)	86 (26%)	0.26
University degree/diploma	136 (34%)	24 (31%)	112 (34%)	
Born in English speaking country	317 (79%)	61 (78%)	256 (79%)	0.95
From rural location	110 (27%)	25 (32%)	85 (26%)	0.59

Table 1. Demographics of participants presented by the presence of heart disease in the household

Figure 1. Comparison of CPR training status among households with and without heart disease

There was no difference in CPR training rates between households with and without heart disease

Results continued

- 49.3% of respondents would be willing to learn CPR in the future **using video self-instructional (VSI) CPR training** at home.
- However, willingness to learn using VSI training decreased with age ($p = 0.005$).

In **households with heart disease** those who had undertaken **pervious CPR training** had:

Self-rated **overall CPR knowledge**
57% vs 16% rated as excellent
 $p = 0.003$

Self-rated **confidence to perform CPR**
43% vs 16% rated as very confident
 $p = 0.003$

- Differences in CPR knowledge and confidence were independent of age.
- Ranked **barriers to performing CPR** were:

Households with HD	Households without HD
1) Physical ability	1) Lack of confidence
2) Performing mouth to mouth	2) Physical ability
3) Performing CPR incorrectly	3) Performing CPR incorrectly

Conclusions

- This is the first time a public survey has provided a comparison of CPR training status between households with and without HD.
- Prior CPR training significantly increases confidence levels and self-rated knowledge in households with HD.
- Therefore efforts should be directed towards targeted strategies to ensure households with HD are trained in CPR.
- Considerations for face-to-face learning for older participants are required, such as supplementing VSI training with a face to face component.