PARAMEDIC ATTITUDES TO PREHOSPITAL RESUSCITATION

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Why research attitudes?

2.92 times more likely to survive to hospital if you had a cardiac arrest in an urban area when compared with a rural area

Out of hospital cardiac arrest in Victoria: urban vs rural outcomes (Jennings et al MJA 2006)
### Table 3. Performance of CPR During the First 5 Minutes and Entire Episode of CPR*

<table>
<thead>
<tr>
<th></th>
<th>First 5 Minutes of CPR</th>
<th>Entire Episode of CPR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No flow (n = 176)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFR, %</td>
<td>49 (21)</td>
<td>48 (18)</td>
</tr>
<tr>
<td>NFR&lt;sub&gt;adj&lt;/sub&gt;, %</td>
<td>42 (19)</td>
<td>38 (17)</td>
</tr>
<tr>
<td><strong>Compression (n = 176)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compressions/min</td>
<td>60 (25)</td>
<td>64 (23)</td>
</tr>
<tr>
<td>Compression rate, /min</td>
<td>120 (20)</td>
<td>121 (18)</td>
</tr>
<tr>
<td>Depth per episode, mm</td>
<td>35 (10)</td>
<td>34 (9)</td>
</tr>
<tr>
<td>38-51 mm with complete release</td>
<td>27 (30)</td>
<td>28 (25)</td>
</tr>
<tr>
<td>Too deep (&gt;51 mm), median (IQR)</td>
<td>0 (0-3)</td>
<td>0 (0-5)</td>
</tr>
<tr>
<td>Too shallow (&lt;38 mm)</td>
<td>59 (37)</td>
<td>62 (33)</td>
</tr>
<tr>
<td>Incomplete release, median (IQR), %</td>
<td>0 (0-1)</td>
<td>0 (0-2)</td>
</tr>
<tr>
<td>Duty cycle, %</td>
<td>41 (5)</td>
<td>42 (4)</td>
</tr>
<tr>
<td><strong>Ventilation (n = 163)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventilations/min</td>
<td>8 (4.6)</td>
<td>11 (4.7)</td>
</tr>
</tbody>
</table>

Abbreviations: CPR, cardiopulmonary resuscitation; IQR, interquartile range; NFR, no-flow ratio, the time without CPR as a percentage of the time without spontaneous circulation; NFR<sub>adj</sub>, no-flow ratio, adjusted by subtracting time allowed for electrocardiographic analysis, possible defibrillation, and required pulse checks in the numerator.

*All data are expressed as mean (SD) unless otherwise noted.

†Compressions per minute refer to the actual number of compressions delivered per minute whereas compression rate refers to the mean rate of compressions, i.e., the reciprocal of intervals between compressions in compression sequences.

The current research

- to explore paramedic attitudes to resuscitation in the prehospital setting.

- Specifically, the project investigated the decision-making by paramedics in Ambulance Victoria (AV) in relation to commencing, continuing and ceasing resuscitation, and examined the significant experiences of paramedics of differing skills sets, age, education levels and locations.

- Key Questions:
  - What are the attitudes of paramedics to prehospital resuscitation?
  - Do factors such as age of patient, location of event and perceived cause of death influence paramedic attitudes to prehospital resuscitation.
Methods

• All AV operational staff including Ambulance Community Officers, Graduate Ambulance Paramedics, Qualified Ambulance Paramedics (BLS & ALS), MICA Paramedics and Flight (MICA) Paramedics ~2900 staff

• Total respondents was 380, but 71 were excluded as they did not complete all questions, leaving a response rate of 309 (11%)

• Interpretative research methodology

• Participants were invited to complete an online survey consisting of a 34 item questionnaire:
  • Demographic responses
  • 10 point Likert scale questions (1 agree very strongly – 10 disagree very strongly)
  • Scenario questions
  • 1 open-ended question
Results - demographics

Gender of Respondents
- 71% male
- 29% female

Age of respondents
- 25% 20-30 years
- 33% 31-40 years
- 29% 41-50 years
- 13% 51+ years

Qualification of Respondents
- 47% ACO
- 14% QAP
- 8% GAP
- 2% ALS Paramedic
- 1% MICA student
- 1% MICA Paramedic
- 1% MICA flight paramedic

Number of years of employment
- 35% <1yr-5yr
- 12% 6yr-10yr
- 12% 11yr-15yr
- 7% 16yr-20yr
- 7% 21yr-25yr
- 7% 26yr-30yr
- 7% 31yr-35yr
- 2% >35yr
Results - demographics

Cardiac Arrests Attended in the Previous Month

Number of Cardiac Arrests
none 1 - 5 arrests 6 - 10 arrests 11 - 15 arrests 16 - 20 arrests 21+

Respondents

Cardiac Arrests Attended in the Previous Month
Results - demographics

Location of Respondents by Region

25
19
35
45 56 36
39
37 26
30 31
**Discussion**

<table>
<thead>
<tr>
<th>I am more likely to commence resuscitation for a patient who arrested:</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Home (2v2)</td>
</tr>
<tr>
<td><strong>In a Nursing Home (6v5, p=0.013)</strong></td>
</tr>
<tr>
<td>At a Retirement Facility (4v4)</td>
</tr>
<tr>
<td>On the Street or other public place (2v2)</td>
</tr>
<tr>
<td>At a Medical Centre / Hospital (2v2)</td>
</tr>
<tr>
<td>At Work (2v2)</td>
</tr>
<tr>
<td>In a Vehicle (2v2)</td>
</tr>
<tr>
<td>At a Sporting venue (2v2)</td>
</tr>
<tr>
<td>In a Shop (2v2)</td>
</tr>
<tr>
<td>At a Hotel / Club (2v2)</td>
</tr>
<tr>
<td>In an Ambulance (1v1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I am more likely to commence resuscitation for a patient who arrested from:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Presumed cardiac cause (2v2)</td>
</tr>
<tr>
<td>Trauma (5v4)</td>
</tr>
<tr>
<td><strong>A Terminal illness (8v8, p=0.0049)</strong></td>
</tr>
<tr>
<td>Overdose/poisoning (2v2)</td>
</tr>
<tr>
<td>A presumed respiratory cause (2v2)</td>
</tr>
<tr>
<td>Hanging (3v3)</td>
</tr>
<tr>
<td>A neurological problem (2.5v2)</td>
</tr>
<tr>
<td>SIDS (1.5v1.5)</td>
</tr>
<tr>
<td>An unknown cause (2v1.5)</td>
</tr>
<tr>
<td>Exsanguination (4v4)</td>
</tr>
<tr>
<td>Drowning (2v1)</td>
</tr>
<tr>
<td>Electrocution (2v1)</td>
</tr>
</tbody>
</table>

Median values (metro v regional) N=309
Interesting findings

• Performance of resuscitation:
  • The personal discomfort of performing chest compressions limits the effort I put in (10v10)
  • I feel confident with my level of knowledge and skills for performing resuscitation (2v2)

“Consideration of outcomes including quality of life with a ROSC I also believe plays a role in the decision to actively and aggressively apply resuscitation measures. It is difficult with the lack of information on the resus status when a patient does not live an independent life and their is severe comorbidities involved not to mention with a significant age. All these issues can have an impact on the aggressiveness of resuscitation efforts.” – QAP (Metro)
Interesting findings

• Performance of resuscitation:

• I would perform mouth to mouth and chest compressions on an unknown patient whilst off duty (9v8)
• I would perform mouth to mouth and chest compressions on a family member or friend whilst off duty (1v1)
• I would perform chest compressions only on an unknown patient whilst off duty (1v2)
• I would perform chest compressions only on a family member or friend whilst off duty (9v9)
• I believe practicing skills (IVs and ETTs) on patients where resuscitation has been ceased is reasonable (6v8, p=1.062)
• I am more likely to commence resuscitation if I am working with a student who needs the practice (6v8, p=0.04)

Median values (metro v regional) N=309
Interesting findings

• Resources:

• I am more likely to commence resuscitation if the patient is close to hospital (8v7)
• I am less likely to commence resuscitation if patient egress is going to be prolonged (9v8)
• I believe outcomes are better for patients who arrest closer to hospital (7v5, p=0.0096)
• I believe patient survival is greatest when they are transported to a hospital with a 24hr ED (2v3)
• I believe patient survival is greatest when transported to a hospital with an on-call ED (9v8)
• I take into consideration the resources available at the hospital when deciding whether to commence resuscitation (9v9)

Median values (metro v regional) N=309
Interesting findings

• **Resources on scene:**
  
  • I believe patient survival is greatest when a MICA crew also attends (2v3, p=0.0153)
  
  • I take into consideration the time to MICA backup when deciding whether to commence resuscitation (9v9)
  
  • I am less likely to commence resuscitation if I feel there are inadequate numbers of people to assist me at scene (9v9)
  
  • I am more likely to commence resuscitation if there are inadequate numbers of people at scene, but backup is nearby (5v5)
  
  • I am more likely to commence resuscitation if bystander CPR is already in progress (3v2, p=0.0069)

Median values (metro v regional) N=309
Scenario questions

• 4 short scenarios involving a patient with no signs of life, requiring a decision about resuscitation

• Designed to explore attitudes and behaviours to see if resuscitation was being commenced immediately, and to see if factors such as age were taken into account
Scenario: 0715hrs 70 year old male found unresponsive by family, collapsed in the lounge room. The downtime is unknown. Patient clearly unconscious, not breathing and appears to have no signs of life. The family are in attendance. As you approach the patient you feel that resuscitation is warranted, however your partner indicates that they are not going to commence resuscitation. In this situation, what action would you take from the following list?
Scenario questions

- Commence resuscitation immediately
- Withhold resuscitation
- Collect patient's medications to confirm past medical history
- Discuss with your partner and then come to a decision
- Commence resuscitation while discussing with your partner
- Consult with the patient's General Practitioner

Ambulance Victoria
Scenario: 0715hrs 65 year old male found unresponsive by family, collapsed in the lounge room. The downtime is unknown. Patient clearly unconscious, not breathing and appears to have no signs of life. The family are in attendance. As you approach the patient the family try to provide you with details of history, past history, medications and allergies. In this situation, what action would you take from the following list?
Scenario questions

- Consult with the patient’s General Practitioner
- Commence resuscitation while discussing with your partner
- Discuss with your partner and then come to a decision
- Collect patient’s medications to confirm past medical history
- Withhold resuscitation
- Commence resuscitation immediately
Scenario questions

- Scenario: 1645hrs 92 year old female found unresponsive by family in bed. The downtime is unknown. Patient clearly unconscious, not breathing and appears to have no signs of life. The family are in attendance. As you approach, the family advise that the patient had expressed she did not want any resuscitative measures should she stop breathing. In this situation, what action would you take from the following list?

- If the patient was 45 years of age with the same history as the 92 year old above, what actions would you take from the following list?
Scenario questions

- Commence resuscitation immediately
- Withhold resuscitation due to the patient's wishes
- Ask for written documentation prior to making a decision
- Collect patient's medications to confirm past medical history
- Discuss with your partner and then come to a decision
- Consult with the patient's General Practitioner
- Commence resuscitation while discussing with the family
- Withhold resuscitation due to the patient's wishes
- Commence resuscitation immediately
“Quality of life is a significant consideration and a key factor in determining access to ICU. Quality of life is a more likely indicator of resuscitation commencement and continuation than age” – MICA Paramedic
Where to from here....

• Limitations
  • Response rate of 10%
  • Technical difficulties in this online survey
• Future research
• Education of paramedics
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• Thanks to
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  • University of Ballarat
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