Reviewer’s report

Title: A Cross-sectional Study of Victorian Mobile Intensive Care Ambulance Paramedics Knowledge of the Valsalva Manoeuvre

Version: 1 Date: 15 September 2009

Reviewer: Peter Paal

Reviewer’s report:

- Major Compulsory Revisions
  The authors mention three steps in the Valsalva Manoeuvre (VM) as “recommended standard” and base the study on this. I do not agree, with this statement, because to my knowledge no international emergency medicine society (e.g. AHA, ERC) has included these three steps in any of their therapy guidelines, also most of the cited references (page 4, ref. 2-7) are from minor journals. Also, the authors state that teaching VM has been so far mainly “informal”, “anecdotally” and “education relies heavily on cultural practice and individual learning” (page 4, paragraph 1 and page 10, paragraph 2). Thus, it would be more appropriate to name the three steps of VM as “three evidence based steps” (according ref 2-7) instead of the “recommended standard”.

  The authors indicate that the results for VM were different between paramedics and emergency physicians. This is not correct, as the p-values for all three comparative tests are not significant (tables 4-6). Thus, there is a trend to a higher compliance to the three “evidence based” VM steps in the paramedics when compared to the emergency physicians (EPs) group.

  Page 8, paragraph 1: Employed statistical test should be mentioned.

  Page 11, paragraph 2: This paragraph should be revised completely, because the differences between paramedics and EPs are not significant.

  Page 11, paragraph 12: Some limitations should be added: 1. There is no recommended standard for VM, and VM teaching has been vague. For example see and cite the 2005 ERC ALS guidelines. 2. Comparing the VM knowledge of paramedics in 2008 with an EPs study from 2005 may lead to a bias, because VM knowledge in 2008 may have been better (though there was neither a “recommended VM therapy standard” in 2008)

- Minor Essential Revisions
  The study design is cross sectional only for the paramedic data. Comparing the paramedic data to the emergency physician data, as done in the second part of the results section, is not cross sectional but longitudinal. Thus, authors should delete “cross-sectional study design” from the Methods section.

  Number of participants should be mentioned in the Methods section of abstract
and manuscript.

Absolute counts and percentages should be given in the Results section of the abstract, e.g. “Only one of 24 paramedics correctly identified the three evidence-based steps in VM treatment…”

Note that only significant data should be presented in the Results section of the abstract. The three VM steps—position, duration, and pressure—are not significant between paramedics and emergency physicians (see tables 4-6), and should not be presented in the abstract.

Based on the non-significant difference in VM treatment between paramedics and emergency physicians (EPs) the authors cannot conclude (abstract and manuscript) that paramedics are better than EPs in treating VM. I agree that there is an opportunity to promote VM therapy guidelines. Also, the authors should conclude, based on their findings, that evidence-based guidelines should be defined by international societies and implemented in training curricula. Of course, further studies are required to better define the optimal VM in the primary emergency field.

Page 5, paragraph 1: A further objective of this study was to compare paramedics’ and EPs knowledge regarding the VM, this should be mentioned.

Methods section, page 5, paragraph 2: Authors should describe the four phases of the VM, or completely cancel these incomplete phase 2 and 4 explanations from the manuscript. There is no additional value for the manuscript in describing these four phases.

Page 5, paragraph 2: The order of the three steps should be uniform throughout the manuscript. The authors mostly set the steps in the following order: 1. Position, 2. Duration, 3. Pressure

Page 5, paragraph 3: The last sentence is bulky and hardly understandable. Please debulk.

Page 6, paragraph 1: Explain or delete the “strain phases”.

Page 6, paragraph 2: Only the paramedics study was cross-sectional. A further objective of this study was to compare paramedics’ and EPs knowledge regarding the VM, this should be mentioned.

Page 12, paragraph 2: Basically I agree that “there is little scientific evidence used in the education of… the recommended standard for terminating a SVT”. However, I would revise this sentence to “there is little scientific evidence used in the education of… the VM steps for terminating a SVT”.

References section: References 1 and 9 are not correctly cited.

Page 17, table 1: Percentages do not add to 100%

Pages 18-20, tables 4-6: Most numbers given as differences in the right column
seem to be incorrect. Note that most P-values are not significant, i.e. P not <0.05 (which has to be taken in account in the discussion, because most findings are not significant and have to be discussed in this way).

- Discretionary Revisions

Page 6 and 7: The setting and population section should be shortened, as most of its content does not add anything important to this study. Mainly it lengthens the manuscript.

Page 13. Name the abbreviations once in the text when they appear the first time and delete this section one this page.

References


Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests