Author’s response to reviews

Title: Culture and personal influences on cardiopulmonary resuscitation - results of international survey.

Authors:

Janet Ozer (azerj@post.bgu.ac.il)
Gady Alon (gadyalon@gmail.com)
Dmitry Leikin (dimleyk@gmail.com)
Joseph Varon (jvaron@roamer.net)
Limor Aharonson-Daniel (limorad@exchange.bgu.ac.il)
Sharon Einav (einav_s@szmc.org.il)

Version: 1 Date: 18 Dec 2018

Author’s response to reviews:

Dear Editor, Journal of the BMC Medical Ethics,

We would like to resubmit our article, after addressing your comments.

Reviewer reports:

Marion Leary (Reviewer 1):

The manuscript entitled "Culture and personal influences on cardiopulmonary resuscitation - results of international survey" is an interesting area of investigation, however, there are a few things that need to be addressed prior to a decision on publication.

Major:

1. The first major concern regarding this survey is regarding the lack of information around advanced directives in these countries. In the US all patients should have a document stating if they would want CPR started if they should go into cardiac arrest. All members of the healthcare team have access to this information. Of the physicians who said they did not begin CPR, did their patients have advanced directives? If so, why were those not followed? Why did they not discuss those with the healthcare providers who were familiar with the patient? The patient's nurse would know that status and would be at the event.

Response: Thank you for this important comment. We agree with the reviewers' comment regarding lack of information around advanced directives. Indeed, we found no data about the prevalence of AD in the general population in these countries. As opposed to the US, in the studied countries the AD are not mandatory. Moreover, research of the topic revealed that the majority of the population do not discuss AD with their physicians (De Vlemínek et al., 2015). Furthermore, in 2007, an analysis of 25 studies, revealed that despite US federal and state laws governing ADs, the completion rate of AD was below 20% (Jezewski et al., 2007). We elaborated about these issues in the revised Discussion.

2. Additionally, though the authors state that one of the limitations includes not having access to
patient level characteristics, not knowing those for the patients where CPR was withheld makes it significantly harder to put these findings into context.

Response: We are aware that factors such as first presenting rhythm or mechanical ventilation can influence the course of resuscitation. However, given the fact that in the present experimental setting, we do not compare between individual patients, but rather look at the possible differences between physicians' attitudes in culturally and geographically distinct regions, we assume that there are no great differences in the distribution of various patients' first presenting rhythm or mechanical ventilation characteristics.

3. Please add more information about what conferences these subjects were recruited from - the results could be a sampling bias due to the nature of physicians who attended the conferences.

Response: We have no reason to believe such a bias existed, we expanded the description of the sampling in the Methods section of the revised manuscript.

4. The authors have the specialty of the physicians listed but do not include where the IHCA events occurred. Since the majority of the physicians surveyed were anesthesia, ICU and EM, are we to assume that the IHCA events happened in the ICU? or emergency department? ICU IHCA events more likely include a higher acuity patient population than general ward cardiac arrest events and could be one reason physicians withhold CPR as they see these patients as sicker. These results may then not be generalizable to other IHCA events.

Response: Thank you for this comment. As we do not compare between individual patients characteristics or IHCA location in this study, but rather look at the possible differences between physicians' attitudes in culturally and geographically distinct 

5. In Table 1 it states that the majority of respondents have never been or had been to an ACLS course greater than 2 years. What is the requirement in these different countries? How could this have affected the survey results? Please expand on this in the limitations section.

Response: In Israel, the required regularity is every 3 years. In Mexico and Indonesia there is no formal requirement. We hypothesized that recent ACLS training would encourage the physicians to preform CPR. Our data shows that Mexican participants who had completed their ACLS training more than two years prior to participating in the survey or had never completed such ACLS training tended to forgo CPR more than those who had completed their training more recently and more than their counterparts in other countries. In the logistic regression model the results were not found to be associated with the decision to forgo CPR, therefore we did not expand on the topic in the Limitations section.

6. Overall I am still not clear why these three random countries were selected, please explain further. Why Indonesia and not Singapore? Why Mexico and not Honduras? How did the authors know physicians from these countries would be at the conferences? How were physicians from these specific countries identified? Were surveys only given to physicians from those countries?

Response: The countries that participated in this study were a convenience sample of three geographically separated and culturally-diverse regions. The study aimed to identify physician characteristics associated with the decision to forego CPR in IHCA. The questionnaires were distributed in conferences or professional meetings that took place in Israel, Indonesia and Mexico to local physicians. At least one of the co-authors attended the conference or the meeting in order to monitor and supervise the data collection as well as the integrity of the study course.

Minor:

1. The title is culture and personal influences but the only topic covered at any great length is religion. Were there other culture or personal information, aside from children, that were included in the survey? If so please expand. Otherwise consider re-titling the manuscript.

Response: We examined both demographic information such as: age, gender, parental status as well as personal believes/ preferences that included risk taking behavior and point of view on quality of life vs. sanctity of life. Country of practice and degree of religiosity were considered as culture influences.
We found that Mexican responders placed higher emphasis on quality of life when requested to grade self-preferences regarding quality of life vs. sanctity of life, in opposed to statement considering resuscitation of patients, p < 0.001.

Response: In the logistic regression model the country of practice and degree of religiosity (regardless of the country) were found to be most strongly associated with avoiding CPR. In addition, increasingly greater theoretical knowledge of resuscitation was associated with an increasingly higher probability of being willing to forgo CPR. All other variables did not reach statistical significance, therefore were not covered with great detail in the Discussion section.

2. Line 183 in the Discussions states that one of the strengths of the study is that the major medical disciplines involved in resuscitation were included, though the majority of subjects were from ICU, EM and anesthesiology. In the US when a medical code occurs, physicians from varying disciplines respond, therefore a wider variety of specialties would actually be a bigger benefit for this type of study, unless you are only looking at IHCA events in the ICU or Emergency Department.

Response: For statistical purposes we combined together several disciplines into one category- yet we differentiate between Anesthesiology, Intensive Care and Emergency medicine and between Internal Medicine, General Surgery and Pediatrics. Anesthesiologists, Intensive Care physicians and Emergency medicine physicians are part of the code teams, therefore were merged into one category. Physicians from other disciplines (Internal Medicine, General Surgery and Pediatrics) who do not usually comprise the code team were included in the study, but not stand alone due to small number of participants in some groups.

As can be seen in Table 2, no significant differences were found between the disciplines.

Reviewer 2 (Reviewer 2): PEER REVIEWER COMMENTS:

REVIEWER COMMENTS FROM REPORT: This is an interesting survey study of 617 participants from three countries. The very high response rate (>90%) is impressive, although it is unclear how the researchers decided which conference attendees to approach.

Response: Thank you. One of the authors was involved in data collection in each site – aiming to identify physicians who meet study inclusion criteria in each site.

The question is interesting, but it is unclear how these data should be used in practice (except that clinicians should be aware of individual biases affecting clinical decisions).

Response: First of all we think that it is important that clinicians are aware of individual biases that may affect their clinical decisions. Moreover, this study looks at differences at the country level and not at the individual level while it seeks associations between different characteristics and conduct, if we demonstrate that people are people and that beyond religion other things predict behavior and decision making, this is an original finding that may have an effect on future training foci.

The actual structure of the survey was unclear and it may have been more clinically relevant to use a series of clinical vignettes.

REQUESTED REVISIONS:
- The abstract should be modified so that the response rate is described as a "result"
  Response: Thank you. We revised the Abstract section according to the comment.
- The description of the survey needs development so that the reader understands the nature of the questions asks and how the survey was developed. This will also help in understanding the results tables (e.g. it is unclear what the score for knowledge/ sanctity v quality of life means- what is this out of? Is higher or lower better?)
  Response: The description of the study development is covered in great detail in one of our previous publications (Einav et al., 2012) and referred to in the Methods section. The legend of the tables states that higher rating on this scale indicates preference for quality of life. This text was added to the manuscript results section as well.
- I am unclear as to the rationale for the grouping of medical professionals- e.g. I would not class a surgeon or paediatrician as similar.
Response: For statistical purposes (in order to create large enough groups for analysis) we combined together several disciplines- as we differentiate between Anesthesiology, Intensive Care and Emergency medicine and between Internal Medicine, General Surgery and Pediatrics.
Physicians from Anesthesiology, Intensive Care and Emergency medicine are part of the code teams, therefore were joined together and merged into one category. Physicians from other disciplines (Internal Medicine, General Surgery and Pediatrics) do not comprise the code team. They were included in the study, but do not stand alone due to small number of participants in some groups.
In any event, as can be seen in Table 2, there is no significant differences among the disciplines.

- The separation of variables (continuous/ categorical) in tables is unhelpful for the reader- please merge as one table. Please also ensure that data points in tables are clearly defined.
Response: Tables were merged as suggested.

- The results section contains a lot of descriptive text about demographics that is clearly shown in tables- please consider reducing the length
Response: Thank you for this note. Some modification was carried out.
- Table 1B describes data points as mean and standard deviation, but the methods states that data were not normally distributed- please amend and describe as median (IQR)
Response: The data in the table was updated according to this comment.
- Please describe how researchers decided who to approach at conferences.
Response: Questionnaires were distributed among the attendees by medical students, supervised by one of the co-authors, on location (conferences or professional meetings). All physicians were offered to participate in the study, those who met inclusion criteria were included.

- Please discuss the potential benefits/ disadvantages of a survey approach that includes case vignettes with questions based on each case.
Response: Case vignettes were not part of the study design, as we sought to seek authentic reports regarding actual experience of withholding CPR. Vignettes offer a theoretical point of view, while the actual decision whether to perform CPR can differ at the decision making moment itself.
- The usefulness of the figures is unclear- they seem to add little to the paper.
Response: We accept the comment and removed the figures from the manuscript.
ADDITIONAL REQUESTS/SUGGESTIONS:
see comments above

We appreciate the thoughtful comments that helped us upgrade our manuscript and improve it. We hope that you find this version of the manuscript suitable for publication in the Journal of BMC Medical Ethics.

Sincerely,

Janet Ozer Ph.D.
Department of Emergency Medicine
Faculty of Health Sciences
Ben Gurion University of the Negev
Beer Sheva 84105
Israel
Tel. 972-8-6477253
e-mail: ozerj@post.bgu.ac.il