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## Letter to the Editor

# The learning impact of a virtual CPR webinar for seniors

### Abstract

**Aim:** To assess the learning impact of a virtual interactive CPR webinar for seniors through mix-methods quantitative and qualitative survey analysis.

**Methods:** We surveyed 350 webinar attendees. The webinar trained participants in hands-only CPR technique and AED use. Survey questions included multiple-choice selection and open-ended responses. Qualitative inductive thematic analysis was conducted on open-ended question responses. Knowledge of CPR was measured on a 3-point scale (very little knowledge, some knowledge, a lot of knowledge). Proportions were compared pre and post seminar using a z-test.

**Results:** 231 respondents  $\geq 65$  years participated in the survey (response rate 66.0 %). There was a significant increase in self-reported knowledge of CPR pre and post webinar (very little knowledge 33.9 % to 1.8 %  $P < 0.00001$ , some knowledge 54.2 % to 12.1 %  $P < 0.0001$ , a lot of knowledge 11.9 % to 86.1 %  $P < 0.0001$ ). We found 5 main themes on participant feedback: Positive affective comments, learning, constructive criticism, the desire to share information and comments on CPR ability. We identified 4 main themes related to further questions: Performing CPR in different circumstances, risks of CPR, information sharing, and prevention of death from myocardial infarction. Following the webinar, 89.9 % of respondents chose that they would be very likely to perform CPR on a friend, family member or colleague.

**Conclusion:** This study highlights the success of virtual CPR webinars for senior citizens in improving self-reported CPR knowledge. This has potential to address barriers to online education for seniors and increase bystander CPR rates.

**Keywords:** Cardiopulmonary resuscitation, Senior citizens, Webinar

### To the Editor

Out of hospital cardiac arrests (OHCA) is one of the leading causes of death in Canada, accounting for more than 20,000 deaths annually.<sup>1</sup> The incidence of sudden cardiac death increases with age, and older individuals are also most likely to witness a cardiac arrest, as majority of arrests occur in the home.<sup>2</sup> Barriers to cardiopulmonary resuscitation (CPR) training attainment for senior citizens include poor health, inability to find a training course and physical limitations.<sup>3</sup> These obstacles were exacerbated in the climate of the COVID-19 pandemic.

Virtual CPR training has been shown to be successful in school aged youth, but to our knowledge no studies on a senior population have been completed.<sup>4</sup> We piloted a virtual interactive CPR webinar for senior citizens, and surveyed participants to assess the learning impact.

Senior citizens, aged 65 and older, participated in a 1-hour interactive, virtual hands-only CPR webinar delivered via Facebook Live between December 2020 to May 2021. Session topics included education about coronary artery disease and myocardial infarction (MI), hands-only CPR technique training with real time practice, as well as education and demonstration of automated external defibrillator (AED) use. An online survey was sent via e-mail to all participants immediately following the webinar. Questions included rating knowl-

edge of CPR on a 3-point scale (very little knowledge, some knowledge, a lot of knowledge), questions about the likelihood to perform CPR following the webinar, and open-ended questions asking for feedback.

Qualitative inductive thematic analysis was conducted on open-ended question responses. Proportions of CPR knowledge pre and post webinar were compared with a z-test. This study was approved by Health Sciences North Research Ethics Board.

231 respondents participated in the survey, for a response rate of 66.0 %. There was a significant increase in self-reported knowledge of CPR pre and post webinar (very little knowledge 33.9 % to 1.8 %  $P < 0.00001$ , some knowledge 54.2 % to 12.1 %  $P < 0.0001$ , a lot of knowledge 11.9 % to 86.1 %  $P < 0.0001$ ). We found 5 main themes on participant feedback: Positive affective comments, learning, constructive criticism, the desire to share information and comments on CPR ability (Table 1). We identified 4 main themes related to further questions: Performing CPR in different circumstances, risks of CPR, information sharing, and prevention of death from MI. Following the webinar, 89.9 % of respondents chose that they would be very likely to perform CPR on a friend, family member or colleague.

This study highlights the success of virtual CPR webinars for senior citizens in improving self-reported CPR knowledge and self-

**Table 1 – “Do you have any other feedback for us?”**

Theme	% Response	Selected example of comment
Positive affective comments	47.5	“They were very successful in their intent to teach their audience to perform CPR when necessary, without being intimidated.”
Learning	24.0	“I especially liked the info to distinguish between heart attack and cardiac arrest as I was always uncertain about this.”
CPR ability	13.1	“It made us feel comfortable to use CPR if we ever have to”
Share with others	8.8	“I have sent the info about future presentations on to others that I think would be interested”
Constructive criticism	6.6	“Would have liked a little more on the defibrillator”

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perceived confidence at administering if a future emergency occurs. This has potential to address barriers of CPR education and increase CPR provision in this vulnerable population. In addition, our study demonstrates the success of a senior population’s ability to learn virtually. In the future, online education may continue to evolve, as the current generation of internet-connected adults are mostly in their 50s and 60s and will continue to develop their technical prowess in the future.<sup>5</sup> This shows promise for virtual medical delivery and healthcare education in the senior population.

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## Conflict of interest

The authors declare that they have no conflict of interest.

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