Decoding Twitter: What does the public want to know about cardiac arrest and resuscitation?

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Abstract

Background: Twitter has more than 500 million registered users and distributes over 200 million tweets per day, but little is known about how it is used to communicate health information, especially about time-sensitive conditions like cardiac arrest in which initial treatment often relies on public knowledge and response. New trends in social media allow us to observe some forms of peer to peer communication about CPR—observations that may help us improve public understanding and action.

Objectives: To better understand public knowledge and inquiries about resuscitation, we sought to characterize tweets containing questions about cardiac arrest, CPR, and AEDs.

Methods: Tweets published April-May, 2011 with keywords cardiac arrest, CPR, AED, resuscitation, heart arrest, sudden death and defib were identified. Tweets containing nonsensical, non-English, non-sequitur, or irrelevant information were excluded. The remaining tweets were individually evaluated for information-seeking questions. Duplicated tweets from the same user at the same time were removed. The question content of the unique tweets were then characterized.

Results:
- Of the 13,981 resuscitation-relevant tweets, 1% (n=162) included questions related to cardiac arrest, CPR, or AEDs. Inquiries were distributed across the study time period with a mean of 4.8 questions daily.
- 21% (34/162) were cardiac arrest-related questions, including queries about symptoms, risk factors, prognosis, distinction from heart attack, treatment options, utility of abdominal compressions, and therapeutic hypothermia indications.
- 39% (63/162) were CPR-specific questions regarding topics such as definitions, guidelines, techniques, certification classes (e.g. location, duration, professional requirement), neonatal resuscitation, hyperventilation treatment, and accuracy of media portrayal of resuscitation.
- 40% (65/162) were AED-specific queries relating to issues such as device availability, safety and cost, purchasing advice, proper
use, effectiveness, and replacing batteries. Conclusions: Twitter is a novel venue in which people can inquire about cardiac arrest. Twitter can be filtered to identify public information-seeking behavior, which offers unique opportunities for expert intervention, education, and awareness. Further understanding of the information sought by the public in this forum may guide new approaches for improving public health and resuscitation-related education.