

UC Irvine

UC Irvine Previously Published Works

Title

Assessing the level of knowledge, attitudes, and beliefs about Ebola virus disease among college students

Permalink

<https://escholarship.org/uc/item/76d7r4sb>

Journal

American Journal of Infection Control, 43(10)

ISSN

0196-6553

Authors

Koralek, Thrissia
Brown, Brandon
Runnerstrom, Miryha Gould

Publication Date

2015-10-01

DOI

10.1016/j.ajic.2015.06.012

Peer reviewed



ELSEVIER

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Letter to the Editor

Assessing the level of knowledge, attitudes, and beliefs about Ebola virus disease among college students

To the Editor:

The first confirmed case of Ebola virus disease in the United States was on September 30, 2014.¹ Between October 7 and November 3, 2014, the Ebola virus had substantial coverage in news and social media.² Approximately 1,000 news segments appeared, and Twitter postings soared from 100 to more than 6,000 tweets per minute.³ One study suggests students learn about stories first through social media (53%) and last through news media (8%), reflecting the type of sources that students access for daily news consumption.⁴ We investigated the type of news sources that college students utilized during the 2014 Ebola virus disease outbreak and their knowledge, attitudes, and beliefs about Ebola virus disease.

Between February and April 2015, we conducted an online survey among University of California, Irvine (UCI), students recruited via convenience sampling, using department e-mail, social media pages, and snowball sampling. The 24-item survey evaluated students' knowledge of symptoms, transmission, attitudes toward Ebola virus disease, and beliefs concerning the government's involvement in the outbreak. Most questions were true or false, those on attitudes used a Likert scale, and those that asked students to rank their sources of information provided a scale from most to least used. Sources included news media (eg, television, radio, and newspaper); social media (eg, Facebook, Twitter, YouTube, and LinkedIn); websites of official government agencies (eg, World Health Organization, Centers for Disease Control and Prevention, and National Institutes of Health); and friends, family, or colleagues. Ethical approval from the UCI Institutional Review Board was obtained.

A total of 514 UCI undergraduate students participated in the survey, including women (74.2%), men (25.4%), and transgender students (0.4%). Age ranged from 18-54 years (mean, 21 years). A total of 10 UCI academic programs were represented, including pharmaceutical sciences (n = 5), public health (n = 77), biological sciences (n = 27), education (n = 1), engineering (n = 4), humanities (n = 72), information and computer sciences (n = 33), physical sciences (n = 73), social ecology (n = 13), and social sciences

(n = 161). The majority (96%) had heard of Ebola virus disease before the study. Students ranked news media as their main source of Ebola virus disease information (41%), followed by social media (22%); a combination of sources (21%); official government websites (12%); and friends, family, or colleagues (4%). Eighty-eight percent of respondents knew that the Ebola virus can be transmitted through "body fluids of an infected person," but many believed Ebola virus can be transmitted through mosquitoes (31%) or through asymptomatic carriers in an airplane (25%). The mean knowledge score was 10.9 ± 5.3 out of 24, with those accessing official government websites having a significantly higher score than other sources ($P = .02$) (Fig 1). Most students (75%) agreed that the Ebola virus disease epidemic is under control in the United States, and 20% believed we should close the US borders to prevent Ebola virus from entering. Beliefs regarding the US government's role in the outbreak did not differ across news sources utilized ($P > .05$).

We may be the first to report on Ebola virus disease knowledge among American college students. Our study revealed that UCI undergraduates have low knowledge and rely mostly on news media for obtaining information on Ebola virus disease. A previous study of college students in India revealed a similar deficiency in knowledge about Ebola virus disease during this outbreak.⁵ Studies have also revealed that college students have misconceptions and insufficient knowledge about cervical cancer prevention,⁶ HIV transmission,⁷ and smoking-related cancers.⁸

Our findings suggest that students possess some knowledge of Ebola virus disease; however, their knowledge is deficient. Students who utilized government websites had more comprehensive knowledge, but few (12%) reported accessing this source. A change in communication methods with college students during future outbreaks may be needed. National public health institutions should strengthen existing partnerships with news media, social media, and college administrators.

References

- Centers for Disease Control and Prevention (CDC). Cases of Ebola diagnosed in the United States. Centers for Disease Control and Prevention. Available from: <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/united-states-imported-case.html>. Published December 2014. Updated December 16 2014. Accessed May 27 2015.
- Mitman G. Ebola in a stew of fear. *N Engl J Med* 2014;371:1763-5.
- Luckerson V. Watch how word of Ebola exploded in America. *Time Magazine*. Available from: <http://time.com/3478452/ebola-twitter/>. Published October 2014. Accessed May 27 2015.
- Rosengard D, Tucker-McLaughlin M, Brown T. Students and social news: how college students share news through social media. *ENews* 2014;8: 120-37.
- Jain M, Sharma A, Khanna T, Arora K, Khari PM, Jain V. Primordial prevention: Promoting preparedness for Ebola virus disease. *J Clin Diagn Res* 2015;9: OC21-4.
- Birsan A, Ilknur AA, Selda R, Hatice O, Damla M. Breast and cervical cancer knowledge and awareness among university students. *Asian Pac J Cancer Prev* 2015;16:1719-24.
- Tung W-C, Lu M, Cook DM. HIV/AIDS knowledge and attitudes among Chinese college students in the US. *J Immigr Minor Health* 2012;15:788-95.

Funded by the Undergraduate Research Opportunities Program at the University of California, Irvine.

Conflicts of interest: None to report.

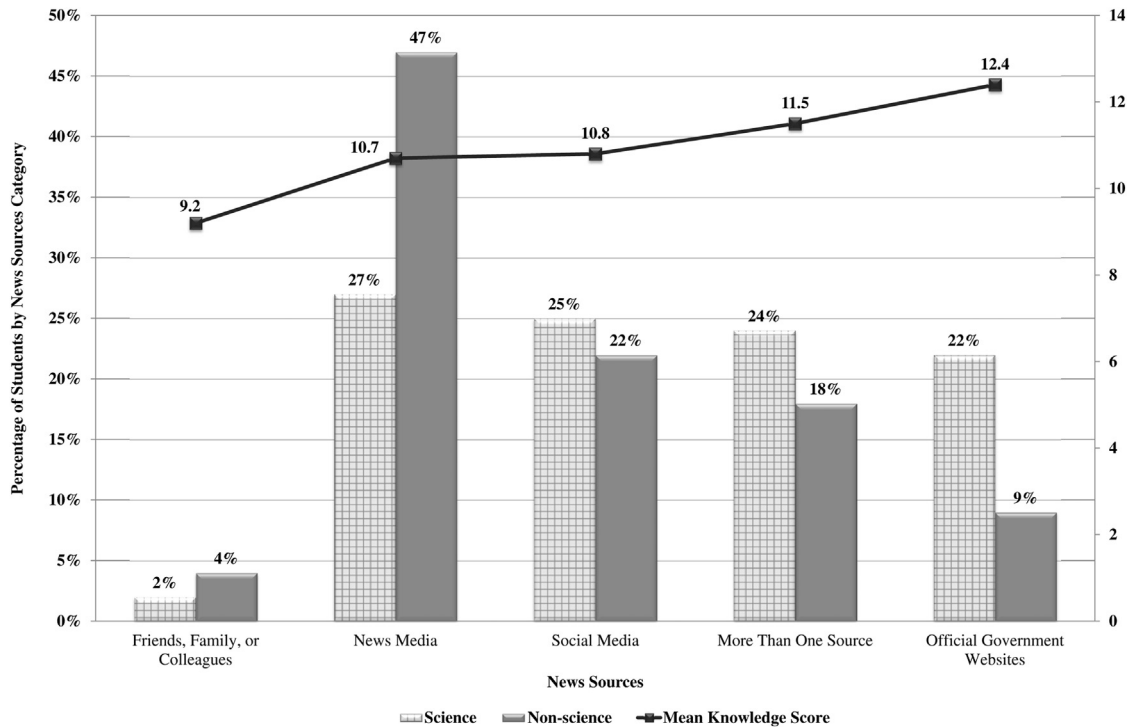


Fig 1. Knowledge scores by news sources utilized for Ebola information.

8. Innabi AA, Ammari DA, Tuqan WJK. Awareness and knowledge of smoking-related cancers among university students in Jordan. *Am J Cancer Prev* 2014;2:20-3.

Thrissia Koralek, BS
University of California, Irvine
Irvine, CA

Brandon Brown, PhD, MPH*
Center for Healthy Communities
Division of Clinical Sciences
UCR School of Medicine
Riverside, CA

University of California, Irvine
Irvine, CA

Miryha Gould Runnerstrom, PhD, MA
University of California, Irvine
Irvine, CA

*Address correspondence to Brandon Brown, PhD, MPH, Center for Healthy Communities, Division of Clinical Sciences, UCR School of Medicine, Ed 2673, 900 University Ave., Riverside, CA 92521.
E-mail address: brandon.brown@ucr.edu (B. Brown).