

New Media for Educating Urology Residents: An Interview Study in Canada and Germany[☆]

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OBJECTIVE: To investigate the usage and perceived usefulness of new media for educating urology residents in Canada and Germany.

DESIGN: We designed an 11-item online survey to assess the use and perceived usefulness of new media for education. We performed a comparative analysis.

SETTING: The survey was distributed via e-mail to 143 Canadian and 721 German urology residents.

PARTICIPANTS: The survey included 58 urology residents from Canada and 170 from Germany.

RESULTS: A total of 58 residents from Canada (41% response rate) and 170 from Germany (24% response rate) responded to this survey. Residents spent 45% of their education time on new media. The Internet was used by 91% ($n = 208$) of the residents for professional education purposes, with a median time of 270 minutes (interquartile range [IQR]: 114-540) per month. Apps were used by 54% ($n = 118$) of the residents, with a median time of 101 minutes (IQR: 45-293) per month. A total of 23% ($n = 47$) of the residents used social media (SoMe) for education, with a median time of 90 minutes (IQR: 53-80) per month. In all, 100% ($n = 228$) rated the Internet, 76% ($n = 173$) apps, and 43% ($n = 97$) SoMe as being useful for professional education purposes. A total of 90% ($n = 205$) watched medical videos for education, and 89% ($n = 203$) of these videos were on surgical procedures. Canadian urology residents used more new media sources

for professional education than did the Germans (58% vs. 41%, $p < 0.001$). The time spent for education on new media was higher among Canadian residents for the Internet ($p < 0.001$), apps ($p < 0.001$), and SoMe ($p = 0.033$). Canadian residents reported more privacy concerns ($p < 0.001$).

CONCLUSIONS: New media play a dominant role in the education of urology residents. The primary source for personal education in urology is the Internet. Future studies and technological developments should investigate and improve new media tools to optimize education during residency. (J Surg Ed ■■■■-■■■. © 2016 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: new media, urology, education, apps, social media, Internet

COMPETENCIES: Medical Knowledge, Practice-Based Learning and Improvement

INTRODUCTION

Education in surgical specialties like urology often depends on a traditional trainee-to-teacher relationship.¹ New media, such as the Internet, apps, and social media (SoMe), have the potential to liberalize this situation. Particularly, in the context of a busy daily work routine, new media can provide detailed and specific up-to-date knowledge.² Internet-based learning is becoming increasingly important in initial³ and further training in medicine.⁴ In fact, new media provide the source and distribution platforms that contribute to the information transfer for continuous growing knowledge in medicine.

Owing to the development of interactive websites, users can now contribute to the content, allowing for a more

[☆]Ethical approval: Ethical approval was not required because we collected anonymous data only.

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participatory and interactive learning experience. The formation of online communities and networks extends the importance of the Internet as a training platform.⁵ SoMe leads to a higher learner engagement, stimulates interaction, and improves feedback.⁶ With the usage of apps, specific and personalized information is permanently available for clinicians and it facilitates the gathering of knowledge. With increases in the private use of SoMe and apps, the professional clinical use is becoming more important.⁷⁻⁹ SoMe are used in the education of students,¹⁰ in further clinical education,¹¹⁻¹³ and in science.¹⁴ Urologists are at the forefront of SoMe use for scientific discussions at journal clubs¹⁵ and congresses.¹² Besides, the usage of new media in the field of education in urology has not yet been investigated.

We aimed to quantitatively assess the role of new media for educating urology residents. We compared the usage of new media for education between Canada as an Anglo-Saxon country and Germany as a European country. We hypothesized, that urology residents from an Anglo-Saxon country used new media more intense than urology residents from a European country.

MATERIAL AND METHODS

A 26-item survey was sent to Canadian and German residents to evaluate the professional use of new media. We also conducted the study in the USA, Australia, and the United Kingdom. Owing to very low return rates < 10%, we did not include these samples in our analysis. The survey consisted of the following 3 domains: an introductory part assessing baseline characteristics, a second domain assessing use and perceived usefulness of new media for education, and a third domain assessing use and perceived usefulness of new media for clinical practice. The third domain was excluded for this analysis because of its different focus on general professional usage of new media,⁷ resulting in an 11-item survey (Appendix). The survey was created according to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES).¹⁶ Baseline characteristics consisted of the participants' age and number of years in training. The contributors stated their percentage of sources used for professional education. The approximated usage time for Internet, apps, and SoMe in a professional capacity was stated using an open scale in minutes per day. The usefulness of the new media types for education was assessed on a 5-point Likert scale, which we grouped into 3 categories to compare the 2 different countries. We asked which types of medical videos are used for educational purposes. Finally, we assessed privacy concerns and curiosity of participants with a validated instrument.¹⁷

The online platform, www.surveymonkey.com (SurveyMonkey, Portland, OR), was used for the distribution of the survey. The Canadian and German collectors were open

from September 1 to November 30, 2015. The Canadian survey was sent to 143 urology residents after contacting all program directors. The German survey was sent to 721 urology residents using the mailing list of the German Society of Residents in Urology and the German Society of Urology. One reminder was sent after 4 weeks.

We used the Statistical Package for the Social Sciences 23.0 software (SPSS Inc., Chicago, IL) for statistical analyses. Values were expressed as mean \pm standard deviation or median plus interquartile range (IQR) or range as appropriate. A *t*-test was used to compare the contributors' ages. A Mann-Whitney *U* test was used for continuous outcome parameters to assess differences between the groups. A chi-square test was used for ordinal outcome parameters. A *p* < 0.05 was considered significant.

RESULTS

In total, 58 (41%) residents from Canada and 170 (24%) residents from Germany completed the online survey. The 228 survey responders had a mean age of 30.1 ± 3.1 years and were in residents' training year 3.3 ± 1.6 . Figure 1 shows which new media sources the residents used for their professional education. Among different sources, residents spent 55% (*n* = 125) of their time for education on conventional education media and 45% (*n* = 103) on new media.

The Internet was used by 91% (*n* = 208) of the residents for professional education purposes. The users spent a median time of 270 minutes (IQR: 114-540; Fig. 2) per month using this type of new media. In all, 90% (*n* = 205) of survey responders found the Internet to be very useful and 10% (*n* = 23) found it useful for education (Fig. 3). Apps were used by 54% (*n* = 118) of the residents for their

Source for professional education

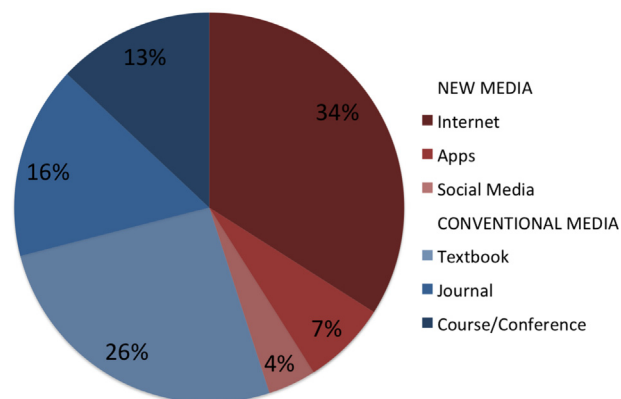


FIGURE 1. Distribution of sources used for education by 228 urology residents from Canada and Germany. Internet, apps, and social media were grouped as new media (red colored); textbooks, journals, and courses/conferences were grouped as conventional media (blue colored).

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