Assessing the Internet as a Pediatric Neurosurgical Patient-Parent Educational Resource: It is Full of CRAAP

Micheal Garcia MS-2; Christopher Allen Daugherty P.A.; Todd A. Maugans MD

Introduction

The internet is used frequently to acquire information about pediatric neurosurgical

conditions. The sources, nature, accuracy, and usefulness of this information have not been examined

recently. The results from Google and Bing searches of 10 common pediatric neurosurgical terms

were analyzed using a relevant scoring system.

Methods

Google and Bing searches were performed for 10 common pediatric neurosurgical topics

(spina bifida, concussion, hydrocephalus, pediatric Chiari malformation, pediatric brain tumor,

plagiocephaly, craniosynostosis, tethered spinal cord, pediatric neurosurgery, and pediatric epilepsy

surgery). The first 10 "hits" in both search engines were analyzed using the Currency, Relevancy,

Authority, Accuracy, and Purpose [CRAAP] Tool, which assigns a numerical score in each of 5

domains: currency, relevance, authority, accuracy, and purpose. Agreement between results was

assessed between Google and Bing, Google and Google over time (6 months apart), and using

Results

The majority of Google and Bing searches yielded information with good CRAAP scores

(mean 71% and 75%, respectively), with good concordance (58%) between search engines. There

was high agreement (72%) over time and very high agreement with privacy settings (92%).

Government sources scored the best in both CRAAP score and readability. Hospitals and universities

were the most prevalent sources. A high correlation in inter-rater reliability for CRAAP scoring was

also observed.

Conclusions

Overall, Google and Bing searches yielded similar, with generally relevant and accurate information;

however, depth and breadth of information was highly variable. Pediatric neurosurgery practices and

neurosurgical professional organization websites, were inferior to governmental and encyclopedic-

type resources such as Wikipedia. This presents an opportunity for pediatric neurosurgeons to

participate in the creation of better online patient/parent educational material.

Learning Objectives

1. Understand the sources and usefulfulness of pediatric neurosurgery patient-parent information currently available on the internet via Google and Bing searches.

2. Identify opporunities for improving the available patient-parent educational information acquired via internet searches.

References

1. Fox S, Duggan M. Health Online 2013. Pew Research Center's Internet & American Life Project and the California HealthCare Foundation; 2013. http://www.pewinternet.org/2013/01/15/health-online-2013/. Accessed

November 11, 2016.

2. Tang H, Ng JHK. Googling for a diagnosis—use of Google as a diagnostic aid: internet based study. BMJ : British Medical Journal. 2006;333(7579):1143-1145. doi:10.1136/bmj.39003.640567.AE.

3. Maugans TA, Levy ML, McComb JG: The internet as a pediatric neurosurgery information resource. J Ped Neurosurg 28(4): 186-190, 1998

4. Evaluating Information – Applying the CRAAP Test.; 2010. https://www.csuchico.edu/lins/handouts/eval_websites.pdf. Accessed November 11, 2016. The CRAAP test was developed by librarians at the Meriam Library,

California State University, Chico.

5. Lella A. comScore Releases February 2016 U.S. Desktop Search Engine Rankings. comScore, Inc. https://www.comscore.com/Insights/Rankings/comScore-Releases-February-2016-US-Desktop-Search-Engine-

Rankings. Published March 16, 2016. Accessed November 11, 2016.

6. Fetto J. Mobile Search: Topics and Themes. Connexity: Hitwise. http://hitwise.connexity.com/rs/371-PLE-119/images/hitwise-mobile-search-report-us.pdf. Published September 26th, 2016. Accessed November 11, 2016.

[Default Poster]