Children's Hospital of Philadelphia PolicyLab

Health Information From Web Search Engines and Virtual Assistants About Pre-exposure Prophylaxis for HIV Prevention in Adolescents and Young Adults: Content Analysis

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Adolescents and young adults are disproportionately affected by HIV, suggesting that HIV prevention methods such as pre-exposure prophylaxis (PrEP) should focus on this group as a priority. As digital natives, youth likely turn to internet resources regarding health topics they may not feel comfortable discussing with their medical providers. To optimize informed decision-making by adolescents and young adults most impacted by HIV, the information from internet searches should be educational, accurate, and readable. The aims of this study were to compare the accuracy of web-based PrEP information found using web search engines and virtual assistants, and to assess the readability of the resulting information. Adolescent HIV prevention clinical experts developed a list of 23 prevention-related questions that were posed to search engines (Ask.com, Bing, Google, and Yahoo) and virtual assistants (Amazon Alexa, Microsoft Cortana, Google Assistant, and Apple Siri). The first three results from search engines and virtual assistant web references, as well as virtual assistant verbal responses, were recorded and coded using a six-tier scale to assess the quality of information produced. The results were also entered in a web-based tool determining readability using the Flesch-Kincaid Grade Level scale. Google web search engine and Google Assistant more frequently produced PrEP information of higher quality than the other search engines and virtual assistants with scores ranging from 3.4 to 3.7 and 2.8 to 3.3, respectively. Additionally, the resulting information generally was presented in language at a seventh and 10th grade reading level according to the Flesch-Kincaid Grade Level scale. Adolescents and young adults are large consumers of technology and may experience discomfort discussing their sexual health with providers. It is important that efforts are made to ensure the information they receive about HIV prevention methods, and PrEP in particular, is comprehensive, comprehensible, and widely available.

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Authors: Darien K, Lee S, Knowles K, Wood S, Langer MD, Lazar N, Dowshen N