



Readability, content, quality, and accuracy assessment of cannabis and pregnancy patient education materials.

Sikora M, Wichianson J, Murphy J, Geller A, Zakowski M

Obstetric Anesthesiology, Department of Anesthesiology, Cedars-Sinai Medical Center, Los Angeles, CA 90048



BACKGROUND

- Cannabis is the most used illicit drug by pregnant women
- Recent studies indicate an increase in prenatal use from 6.75% in 2019 to 8.1% in 2020.
- When searching “cannabis and pregnancy” both society and non-society websites offer information on the risks versus safety of using cannabis while pregnant
- Greater than 90% of women utilize the internet for pregnancy health information and often focus on the most viewed websites which often include non-reputable sources

METHODS

- We utilized the Google search engine with the keywords “cannabis” and “pregnancy” to find patient education material from both society and non-society websites
- Our study compared the patient education materials from society and non-society websites for the following:
 - Readability
 - PEMAT Understanding/Actionability
 - Content
 - Quality-utilizing a five-reviewer consensus
 - Accuracy



RESULTS



- Society accuracy, understandability, and actionability scores were significantly higher than non-society websites
- There were no differences observed for readability and content
- The most frequently mentioned content between both sources included:
 - Cannabis crosses breast milk
 - Cannabis use is associated with low birth weight and an increased rate of ADHD
 - Cannabis should be avoided in pregnant and breast-feeding mothers

Table 1: Readability, Accuracy, and PEMAT scores for Web-based Patient Education Materials on Marijuana and Pregnancy			
	Non-society Websites (n=12) Mean ± SD	Society Websites (n=12) Mean ± SD	P-value
Readability			
FRES	42.7 ± 6.63	42.3 ± 11.2	0.92
FOG	14.4 ± 2.06	14.0 ± 2.2	0.62
FKGL	12.0 ± 1.65	12.1 ± 2.3	0.93
Coleman-Liau	11.8 ± 1.03	11.9 ± 1.5	0.9
SMOG	10.9 ± 1.47	10.7 ± 1.6	0.67
Accuracy	86.3% ± 25%	97.5% ± 3.5%	0.038*
PEMAT			
Understandability	46.25% ± 29.89%	74.0% ± 17.75%	<0.01**
Actionability	20.0% ± 20.89%	35.0% ± 21.11%	0.03*
PEMAT: Patient Education Materials Assessment Tools; FRES: Flesch Reading Ease Score; FOG: The Gunning's Fog Index; FKGL: Flesch-Kincaid Grade Level; Coleman-Liau: The Coleman-Liau Index; SMOG: Simple Measure of Gobbledygook			
**p<0.05 significant			



DISCUSSION



- Society websites content is difficult for patients to read
 - Readability graded well above the average reading level with the majority grading at a college reading level
- No differences were observed in the content analysis
 - Possible explanations include non-society websites included news sites which fact checked their data to society websites
 - Google could be directing attention to higher quality sites and filtering out opinion and sales websites
- Society websites need to ensure their content is high quality and easily readable for patients.