

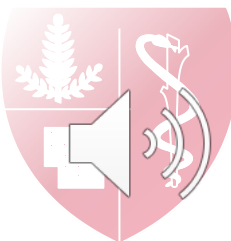
ASSESSMENT OF ONLINE SITES RELIABILITY, ACCOUNTABILITY, READABILITY AND SPANISH TRANSLATION FOR INTRAVITREAL INJECTIONS

Nadim Rayess, MD

Vitreoretinal surgery Fellow

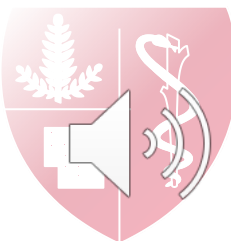
Byers Eye Institute

Stanford University



FINANCIAL DISCLOSURES

None



SUMMARY

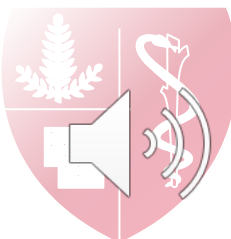
Academic websites more reliable than private

No difference in reliability according to website rank

Significant improvement in reliability needed among all sites to allow patients to have a better understanding of their disease

Providing authorship and references can improve reliability

Improving readability and incorporating Spanish translation

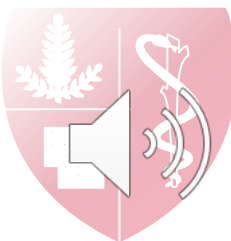


CO-AUTHORS

Angela Shan Li, BS

Diana Do, MD

Ehsan Rahimy, MD

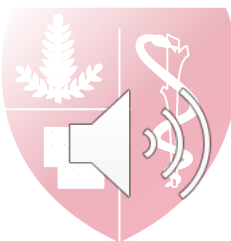


BACKGROUND – ONLINE HEALTH INFORMATION

Many patients use the internet to supplement their information from physicians

- 72% of internet users have searched the web for health related information

Online health information impacts patient understanding of disease and decision making



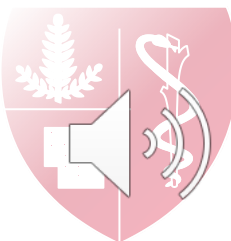
BACKGROUND – ONLINE HEALTH INFORMATION

Benefits of online health information

- Better understanding of disease and treatments
- Shared decision making

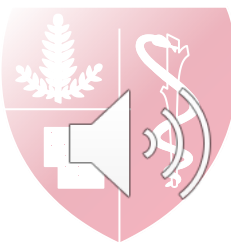
Drawbacks of online health information

- Unregulated
- Variable quality and accuracy
- Readability



OBJECTIVE

To quantitatively assess the reliability, quality of content, readability and option for Spanish translation of online health information regarding intravitreal injections



METHODS

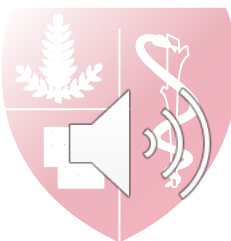
Cross sectional study: October-November 2019

Google Search

- *Eye injections, intravitreal injections, anti-VEGF injections*
- Top 20 unique websites included

Websites grouped

- Academic/reference source vs private websites
- Top 5 ranked websites, other 15 websites

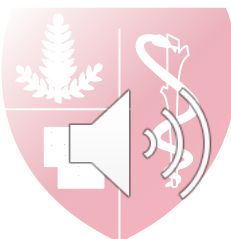


METHODS

Quality, Accountability and Reliability

1. DISCERN criteria

- First 8 questions catered towards assessing reliability of website
- Questions 9-15 evaluates the quality of content regarding the treatment
- Scored 1-5:
 - 1: website does not mention the quality criteria
 - 2-4: website partially fulfilled the quality criteria
 - 5: fully and clearly addressed the quality criteria



METHODS – HONCODE

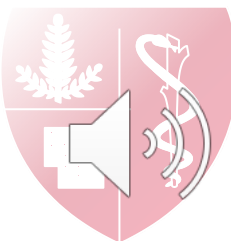
Quality and accountability

7 criteria

- Ownership, purpose, authorship, qualification, attribution (references and sources of information), interactive and currency (recent update to website)

Scale 0 to 2

Sum of HONcode calculated for all 7 criteria (14 points)



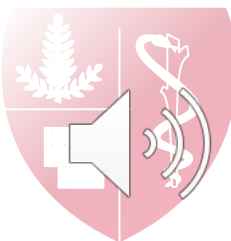
METHODS – GRADING

20 websites independently graded

- Nadim Rayess, MD; Ehsan Rahimy, MD

Difference adjudicated

- Diana Do, MD

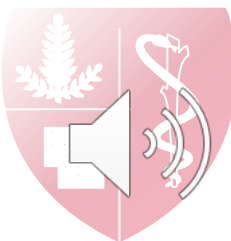


METHODS - READABILITY

Online calculator (readabilityformulas.com)

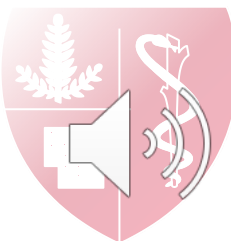
7 indices

Consensus grade level



METHODS – SPANISH TRANSLATION

All 20 websites were checked to determine if they provided Spanish translation



METHODS – OUTCOME MEASURES

Primary outcome measure

- Comparing quality and accountability scores between academic and private websites using DISCERN and HONcode

Secondary outcome measures

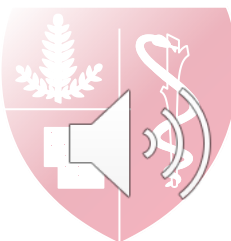
- Evaluating readability and presence of Spanish translation between academic and private websites
- Top 5 ranked websites and other 15 websites: Reliability, accountability, readability and Spanish translation



RESULTS

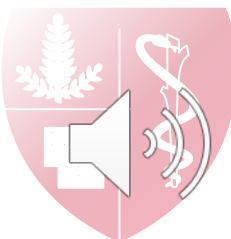
20 websites were included

- 11 academic websites
- 9 private websites



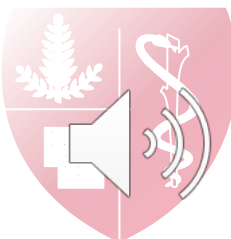
RESULTS – ACADEMIC VS PRIVATE WEBSITES

	Academic (n=11)		Private (n=9)		P-value
	Mean	SD	Mean	SD	
DISCERN (mean)	3.11	0.46	2.23	0.61	< 0.01
DISCERN Credibility (D1-8)	3.41	0.69	2.10	0.60	< 0.01
DISCERN Treatment (D9-15)	2.77	0.53	2.38	0.67	0.18
HONcode (sum)	10.91	2.66	6.44	3.36	< 0.01
Readability consensus (grade level)	11.73	1.68	11.78	1.48	0.94
Spanish translation (%)	45%		22%		0.28



RESULTS – TOP 5 RANKED WEBSITES VS OTHER 15

	Top 5 websites		Other 15 websites		
	Mean	SD	Mean	SD	P-value
DISCERN (mean)	2.89	0.57	2.66	0.73	0.54
DISCERN Credibility (D1-8)	3.04	0.68	2.75	0.99	0.51
DISCERN Treatment (D9-15)	2.71	0.57	2.55	0.64	0.73
HONcode (sum)	10.00	2.12	8.53	4.09	0.51
Readability consensus (grade level)	11.20	0.45	11.93	1.75	0.37
Spanish translation (%)	40%		33%		0.50

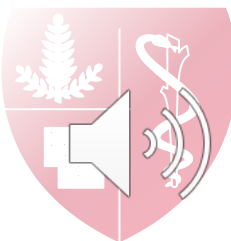


DISCUSSION – CREDIBILITY WEBSITE

Need for increased regulation

- Authorship information
- References incorporated in text and bibliographies
- Review and update website on a regular basis

Implementing these changes would increase websites overall credibility for patients

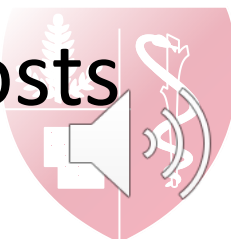


DISCUSSION - READABILITY

Consensus readability score above 11th grade for both academic and private websites

Significantly higher than the American Medical Association and National Institute of Health recommended grade level of 6

Lower overall health literacy is associated with increased complications, hospitalizations, poor understanding of disease and a rise in health care costs

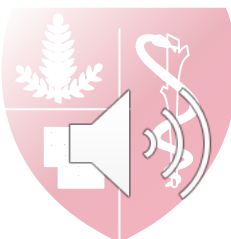


DISCUSSION – SPANISH TRANSLATION

Health literacy impacts Hispanic patients to a greater extent

- Lower education
- Language barriers
- Access to healthcare

Spanish translation: 45% academic websites and 22% private websites

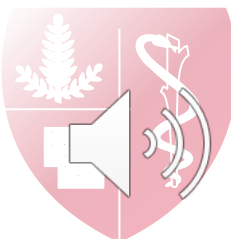


DISCUSSION – WEBSITE RANK

Most patients click on top 2-5 websites

No difference in reliability, accountability, readability or Spanish translation between top 5 and other 15 websites

Search engines website rank metrics do not incorporate quality of content indices

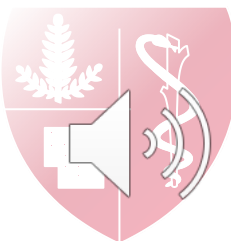


LIMITATIONS

Websites were only evaluated using a single search engine (Google)

Does not directly assess patient's health literacy who access the internet

- It is possible that patients who are undergoing searches have a higher health literacy and understanding



CONCLUSIONS

Academic websites more reliable

Significant improvement in reliability needed among all sites to allow patients to have a better understanding of their disease

Providing authorship and references can improve reliability

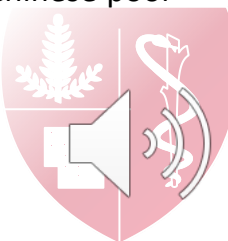
Improving readability and incorporating Spanish translation will allow patients of all health literacies to understand content

Adding certification to websites via AAO, ASRS or HONcode can help patients know which websites to trust and can also help physicians when referring patients to websites



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THANK YOU

nrayess@Stanford.edu

