

Readability, Quality, and Timeliness of Urticaria Online Health Resources

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Conflict of Interest Disclosure

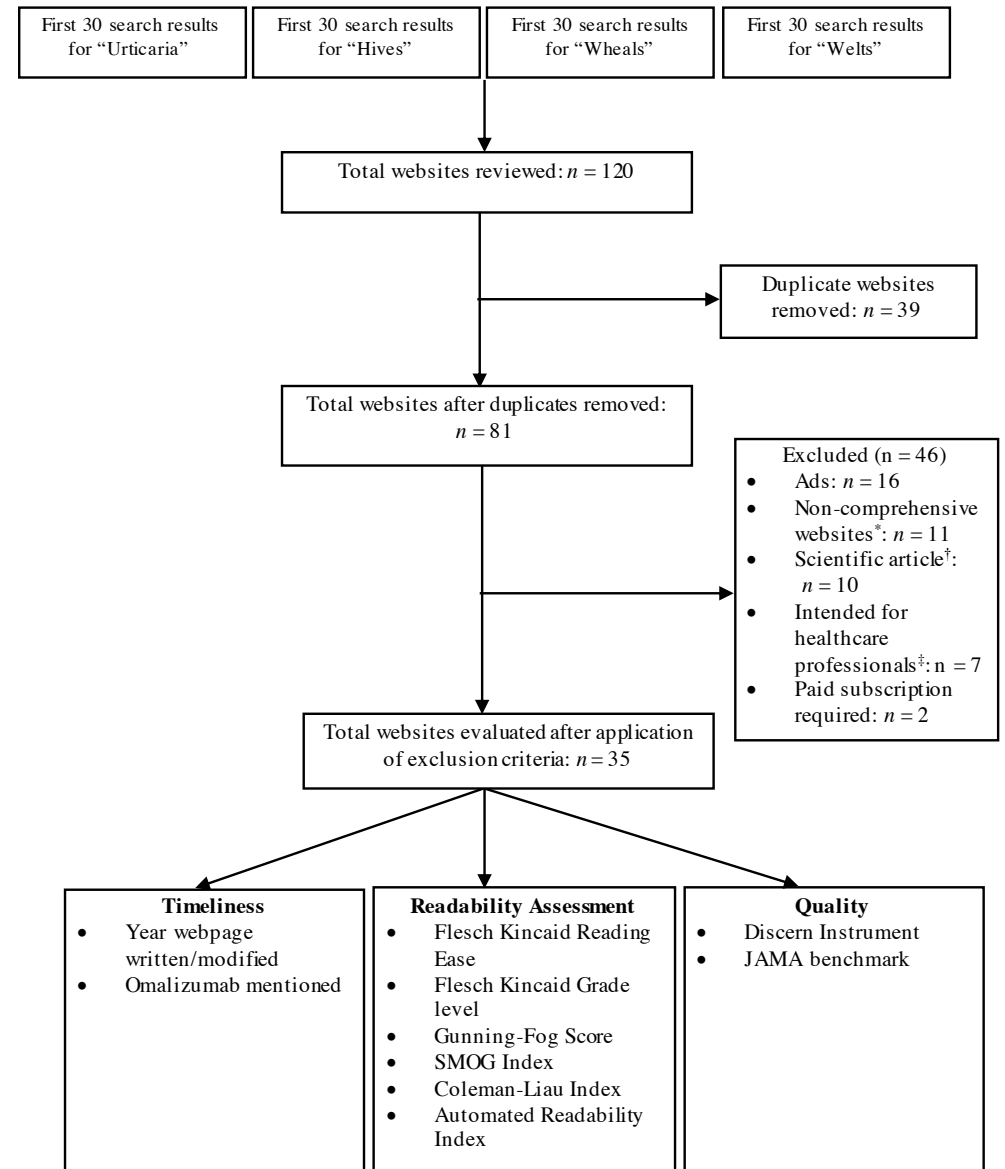
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Background

- Urticaria is a common dermatosis with a prevalence of 20% in the United States.^{1, 2}
- It can negatively impact physical and psychological health with increased economic burden.²
- The American Medical Association recommends patient material to be \leq 6th grade reading level.³
- As patients increasingly utilize the Internet to obtain health information, dermatologists should be aware of characteristics of online health information for urticaria which is unknown.⁴
- **Aim:** To evaluate the readability, quality, and timeliness of online urticaria educational content.

Methods

- A Google search was conducted on January 6th, 2021 using the terms “Urticaria”, “Hives”, “Wheals”, and “Welts” and the first 30 results were evaluated.
- Text from each website was run through six well established and validated readability scales.
- Quality was assessed using the JAMA benchmark criteria and Discern instrument.
- Mention of omalizumab, approved by the FDA in 2014 for treatment of chronic idiopathic urticaria, was used as a marker for timeliness.⁵



Results

- Of 120 websites reviewed, 35 met inclusion criteria.
- Seattle Children's was the only website that met the AMA recommended 6th grade reading level at 6.2.
- Average readability across all websites was at 11th grade level.
- Medscape (14.2) and NHS Inform (16.2) had the highest readability grade levels requiring a university level reading comprehension ability.

Website Name	Average Readability Grade Level
Seattle Children's	6.2
healthychildren.org	7.5
Nationwide Children's	8.6
American Academy of Dermatology	8.7
Royal Children's Hospital	9.2
Mount Sinai	9.5
Cleveland Clinic	9.7
Healthline	9.8
Air Care	9.9
Asthma and Allergy Foundation of America	10.0
Medline Plus	10.1
American Osteopathic College of Dermatology	10.2
Kids Health for Nemours	10.2
Columbia Doctors	10.3
Penn Medicine	10.6
Northeastern Dermatology Associates	10.8
Healthline	10.8
Mayo Clinic	10.9
DermNet NZ	11.0
WebMD	11.0
Medline Plus	11.3
New York University Langone	11.4
American College of Allergy, Asthma, and Immunology	11.5
MeMD	11.6
Johns Hopkins Medicine	11.6
American College of Allergy, Asthma, and Immunology	11.7
Riley Children's Health	11.8
Wikipedia	12.2
Skin Sight	12.2
UpToDate	12.4
American Academy of Allergy, Asthma, and Immunology	12.4
Medical News Today	12.5
Very Well Health	12.7
Medscape	14.2
National Health Service (NHS) Inform	16.2

Results

- The average Discern score was 40, characterized as fair.
- The websites with the highest quality based on the Discern Instrument were Medscape (57.5), UpToDate (54), and DermNet NZ (54).
- The average JAMA benchmark criteria met was 1.6 out of 4.
- Kids Health for Nemours and Medscape were the 2 websites achieving full 4 points on JAMA benchmark.

Overall website quality score	Mean +/- SD (range)
JAMA Benchmark	1.6 +/- 1.21 (0 to 4)
Discern Instrument	38.3 +/- 11.7 (19.5 to 61.5)
	<u># of websites:</u>
Excellent (63-75)	0
Good (51-62)	5
Fair (39-50)	8
Poor (27-38)	16
Very Poor (15-26)	6

Results

- Authorship was disclosed on only a third (12/35, 34%) of websites.
- Date of publication or revision was unspecified on 10/35 (29%) websites.
- There were 11/25 (44%) websites written/modified in 2020 or later.
- Omalizumab was mentioned in 13/35 (37%) of articles.

Website Characteristics	No. (%)
Author name provided	13 (37%)
Author degree (n=13): MD or equivalent/ PhD	13 (100%)/ 1(8%)
Author is a dermatologist	8 (62%)
Omalizumab mentioned	13 (37%)
Year written/modified was mentioned	25 (71%)
Written/modified in 2020 or later (n=25)	11 (44%)

Conclusion

- There is a need to increase the readability, quality, and timeliness of online information on urticaria as highlighted by our results.
- Websites such as Medscape demonstrate high quality, however they require a university level comprehension not suitable for all patients.
- Other readability studies investigating hidradenitis suppurativa, atopic dermatitis, and rosacea have demonstrated similar findings and underscore the need for global improvement of online health material.⁶⁻⁸
- Online resources are becoming standard in patient care and are important to facilitate shared-decision making between patients and physicians.

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