Assessing the Quality of Radiology-Related Consumer Health Information on "X" (formerly Twitter) Using the DISCERN Instrument

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Introduction

X (formerly Twitter) has become a leader in the dissemination of various types of information such as world news, sports updates, and much more. Recent studies have shown that X has become a popular source of medical information for patients, however, there have not been studies to assess the quality of this information available to patients. This study sought to assess the quality of radiology-related medical information that is accessible to patients on X using the DISCERN tool.

Methods

After querying past literature for the most searched radiology search terms, six were selected: radiology, imaging, mammogram, MRI, and ultrasound. Six X accounts were subsequently generated with gender neutral names and paired preferences. The accounts were used to query each of the search terms daily, and the following tweets were analyzed using the DISCERN Tool; a tool used to evaluate the quality of consumer health information. Tweets were also categorized by the type of content posted, the individual posting the tweet, and the type of evidence provided, followed by Chi-Squared tests and Fisher's Exact tests.

Results

1,877 tweets have been collected and subsequently analyzed. Kruskal-Wallis tests were carried out to compare the DISCERN scores of tweets based on content poster, content type, and evidence type with all three tests demonstrating significance ($p<0.001$). Dunn's Multiple Comparisons Tests were carried out to identify pairwise comparisons between each of these three measured parameters to identify tweet characteristics that led to significant differences in DISCERN scores, and therefore quality of consumer health information.

DISCERN Score by Content Poster Category	Kruskal-Wallis Test: p<0.0001
Scientific Journal Account	
Health Professional: MD/DO	
Health Professional: Other	
Hospital/Medical Center	
Health Based Company/Organization	
Layperson	
DISCERN Score by Content Type Category	**Kruskal-Wallis Test: p<0.0001**
Diagnosis	
Advertisement/Self Promotion	
Treatment Course	
Personal	
Health Safety	
DISCERN Score by Evidence Type Category	**Kruskal-Wallis Test: p<0.0001**
Scientific Journal Article	
Educational Blog/Website	
Video/Podcast	
Anecdotal	
No Evidence	

Table 1: Categorical breakdowns for the three variables used to stratify tweets characteristics, all of which demonstrated significance following Kruskal-Wallis Tests.

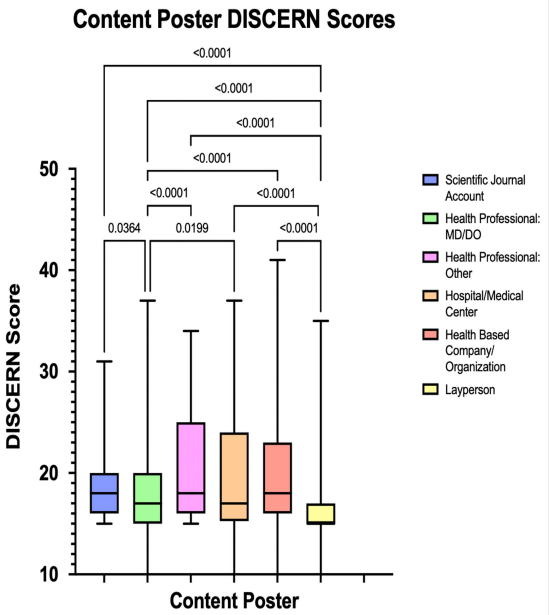


Figure 1: Pairwise comparisons between different Content Poster categories using Dunn's Multiple Comparisons Tests showed significant differences in quality of consumer health information when using the DISCERN Tool score as a proxy.

Discussion and Conclusions

Based on the post hoc tests, there is strong reason to believe that the quality of consumer health information provided by a tweet varies significantly based on the individual making the tweet, the specific content pertaining to radiology that the tweet is addressing, and the type of evidence that the tweet uses. Despite the score variations, all scores on average ranked as "very poor." Of these three characteristics, the individual making the tweet showed the most variation in DISCERN scores and thus the quality of health information provided.

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