Are health-related posts on Twitter evidence based?

In recent times, health care professionals in the Middle Eastern countries are using Twitter®, a free social networking website, to tweet health related information. This includes creation of public awareness about health and diseases, communication with other healthcare professionals, tracking disease outbreaks, collection of health data, identifying misuse of medicines, and increasing knowledge on health-related topics.

Several studies have examined the content of health-related tweets in English and it has been found that most of them are not from a credible source and contain misleading information. Thus the validity of health-related tweets needs is crucial to ensure tweets are reliable and evidence-based, rather than a personal opinion or misinformation. Thus a study was conducted to assess health-related tweets in Arabic for validity and credibility. A manual approach was used to identify health-related tweets associated with either an organization or an individual user.

The first step involved a search on the Twitter website using the following search terms in Arabic: health, your health, agility, regimen, healthy diet, drugs, disease, diseases, drug, treatment, prohibited drugs, epidemic, inflammations, infection, medical information, doctors, hospitals, daily medical information, nutrition, medical accounts, health accounts, doctor accounts, and nutrition accounts.

This resulted in 203 relevant tweets that were reviewed to exclude accounts whose identity could not be ascertained.

The second step involved selection of accounts based on number of followers (minimum was set to 250,000), activity (tweeted during April 2015), interaction with other users and frequency of tweets (daily basis). This resulted in 86 Twitter accounts, whose identity was ascertained via a web link to their respective clinics/hospitals/institute. We obtained 31 physician, 39 non-official health institute, 6 dietitian, 2 media, and 8 government institute accounts.

The third step involved further examination of the 86 accounts by popularity (most viewed), interaction with other users and number of followers. Accounts with a minimum of 45,000 followers were reviewed for 1 week to select those posting at least 5 health-related tweets per day with at least 100 re-tweets a week. This resulted in 25 Twitter accounts, namely 8 physician, 10 non-official health institute, 4 dietitian, and 3 government institute accounts.

The final step involved selection of the first 5 health-related tweets daily for 5 days (1st to 5th April, 2015) from each of these 25 accounts resulting in 625 tweets which were stripped of the identity and evaluated by 3 American Board–certified independent reviewers. The reviewers evaluated and labeled these tweets as false, true with weak evidence, true with moderate evidence, or true with strong evidence. Then the tweets were scored using a system that used the majority of the reviewer's opinions to generate a score for each tweet. If there was no majority in the reviewers'

opinion, the lower evidence level was chosen as the score. The 3 reviewers achieved moderate levels of agreement in the classification of tweets as true or false.

Results showed that over half of the tweets (320/625, 51.2%) in this sample were not supported by medical evidence. Analysis of tweets by account type showed that government institutes share most of evidence-based medical tweets 80%, followed by physicians 61.7%, and dieticians 41.6%.

Over half of the health-related tweets from non-official health institutes 68.1% (169/248) and dietician accounts, 58.4% (59/10) were false. One in 3 physicians shared health information that was rated false in contrast with previous studies that showed physicians shared testable claims.

This study recommends consensus on types of tweets and minimal evidence level for physicians to tweet. Guidelines and policies are required on the use of social media in modern health care.

Publication

Are Health-Related Tweets Evidence Based? Review and Analysis of Health-Related Tweets on Twitter
Alnemer KA, Alhuzaim WM, Alnemer AA, Alharbi BB, Bawazir AS, Barayyan OR, Balaraj FK.
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