

Department of Pediatrics UNIVERSITY OF WISCONSIN

SCHOOL OF MEDICINE AND PUBLIC HEALTH

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NTRODUCTION

- About 30% of Americans today do not plan on receiving a Covid-19 vaccine
- Over 70% of adult Twitter users report getting their news and information from Twitter
- Unknowns:
- Content of discussions about Covid-19 vaccine on Twitter
- Professional background of people discussing the Covid-19 vaccine
- Where on Twitter pro or anti-Covid-19 vaccine discussions are taking place
- **Study Purpose: to explore the discussion about** the COVID-19 vaccine on Twitter, as well as investigate the professional background of people among different hash tags that are discussing the Covid-19 vaccine.

METHODS

Design and Setting

 This content analysis study evaluated 160 tweets from December 29th, 2020 to March 21st, 2021

Subjects

- Tweets were included that mentioned the Covid-
- 19 vaccine and included at least 1 of 4 distinct hash tags:
- #CovidVaccine, #Covid19Vaccine, #Antivax, and #Antivaxx
- 40 tweets from each hash tag were selected using Twitter's "Top" feature.

Measures

- Covid-19 Vaccine Position: pro-vaccine, anti-vaccine, undecided, N/A
- Covid-19 Vaccine Concerns: Speed of development/distribution, longterm outcomes/effectiveness, type/safeness of vaccine (MRNA), distrust/fear in manufacturing, other/conspiracy theories, N/A (independent of each other)
- Professional Background: public/political figure, health care worker, other, N/A

Analysis

- Descriptive statistics were summarized in terms of means, standard deviations, and percentages
- Chi squared analyses were used to assess a) differences in roles among hash tags, and b) differences in Covid-19 vaccine positions among hash tags

How the Covid-19 Vaccine is Being Discussed on Twitter

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RESULTS

Difference In Hashtag Use Based on Twitter User Professional Background The likelihood of using a given hash tag varied across different Twitter user roles (p<.001) Public/Politi Healthcare Did not disclose cal Figure worker Other 45.10% 26.92% Covid19 33.33% 9.46% (n=7) (n=3) (n=23) (n=7) Vaccine Covid 14.86% 33.33% 47.06% (n=3) (n=24) 7.69% (n=2) Vaccine (n=11) 40.54% 22.22% 19.23% (n=2) (n=30) 5.88% (n=3) (n=5) Antivax 11.11% 46.15% 35.14% (n=1) 1.96% (n=1) (n=12) (n=26) Antivaxx

62.0% (n=31) of Covid-19 vaccine concerns that discussed conspiracy theories came from Twitter users who did not specify their role.

Difference in Hashtag Use Based on Covid-19 Vaccine Position The likelihood of using a given hash tag varied across different Twitter user covid vaccine positions (p<.001)

	Covid19 Vaccine	Covid Vaccine	Antivax	Antivaxx
Did not disclose	2.50% (n=1)	7.50% (n=3)	0.00% (n=0)	10.00% (n=4)
Pro-vaccine	92.50% (n=37)	85.00% (n=34)	47.50% (n=19)	47.50% (n=19)
Anti-vaccine	5.00% (n=2)	7.50% (n=3)	45.00% (n=18)	40.00% (n=16)
Undecided	0.00% (n=0)	0.00% (n=0)	7.50% (n=3)	2.50% (n=1)

- 70.0% (n=28) of #Antivax tweets and 82.5% (n=33) of #antivaxx tweets expressed 1 or more Covid-19 Vaccine concern.
- 88.0% (n=44) of all conspiracy theory-related Covid-19 vaccine concerns came from #Antivax and #Antivaxx.

MAJOR FINDINGS

Findings suggest:

- Most Twitter users express positive positions toward the Covid-19 vaccine, but many also express negative positions towards the Covid-19 vaccine.
- It is common for Twitter users to share 1 or more concern on the Covid-19 vaccine, especially conspiracy theory concerns.
- Twitter users with different professional backgrounds and Covid-related views tend to use separate hash tags and may be unlikely to share views and information with each other.

IMPLICATIONS

- Covid-19 Vaccine providers should ask patients about social media conversations, especially Covid-19 vaccine concerns like conspiracy theories, in order to combat potential misinformation
- Twitter users should share any Covid-19 vaccine concerns, as well as get their news and information about the Covid-19 vaccine, on hash tags like #CovidVaccine or #Covid19Vaccine, as these are the hash tags most used by healthcare workers
- Future research with multiple social media platforms and more specific groups of professional backgrounds is needed in order to examine Covid-19 vaccine discussions on a larger scale.

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