Myths and Misinformation Surrounding Oral Contraceptives on Twitter

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Background

- Misinformation and misperceptions about side-effects can lead to fear of contraceptive uptake, resulting in well-documented barriers to use.
- Mistrust coupled with misinformation has perpetuated the incorrect belief that contraceptives can cause fertility issues in women.
- Since such myths spread easily within communities, it's important to estimate the prevalence and character of such beliefs in different populations to assess their impact.

Question

To what extent, in terms of quantity and influence, do Twitter users in the U.S. believe that oral contraceptives can lead to future fertility issues in women?

Hypothesis

We expect misinformation to be prevalent about this topic, and that tweets with strong belief or sentiment will be more influential.

Method

- Searched for a combination of birth control related term & either "infertility", "infertile", "pregnant", or "fertility"
- Included a combination of general terms (such as "birth control") and brand names (such as "Loestrin")

Handcoding:

compared

Split each set of tweets in half

Each team of 2 coded each half and

Coded belief (oral contraceptives cause

untrue statement) by binary code (0/1)

Expression

infertility) & misinformation (general

Determined relevancy of tweet to

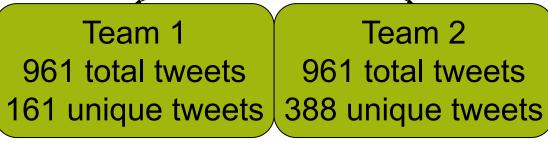
research question & retweet count

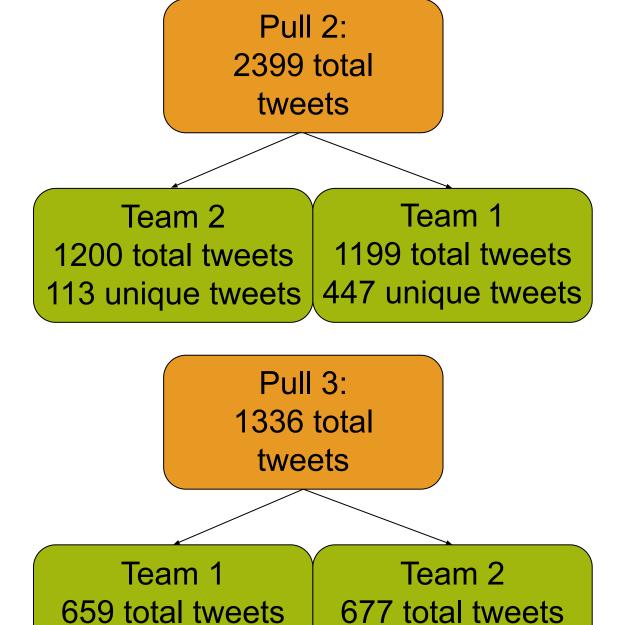
Also coded content & expression of

each tweet with categories below

Total tweets: 5657 Total unique tweets

Pull 1: 1922 total tweets



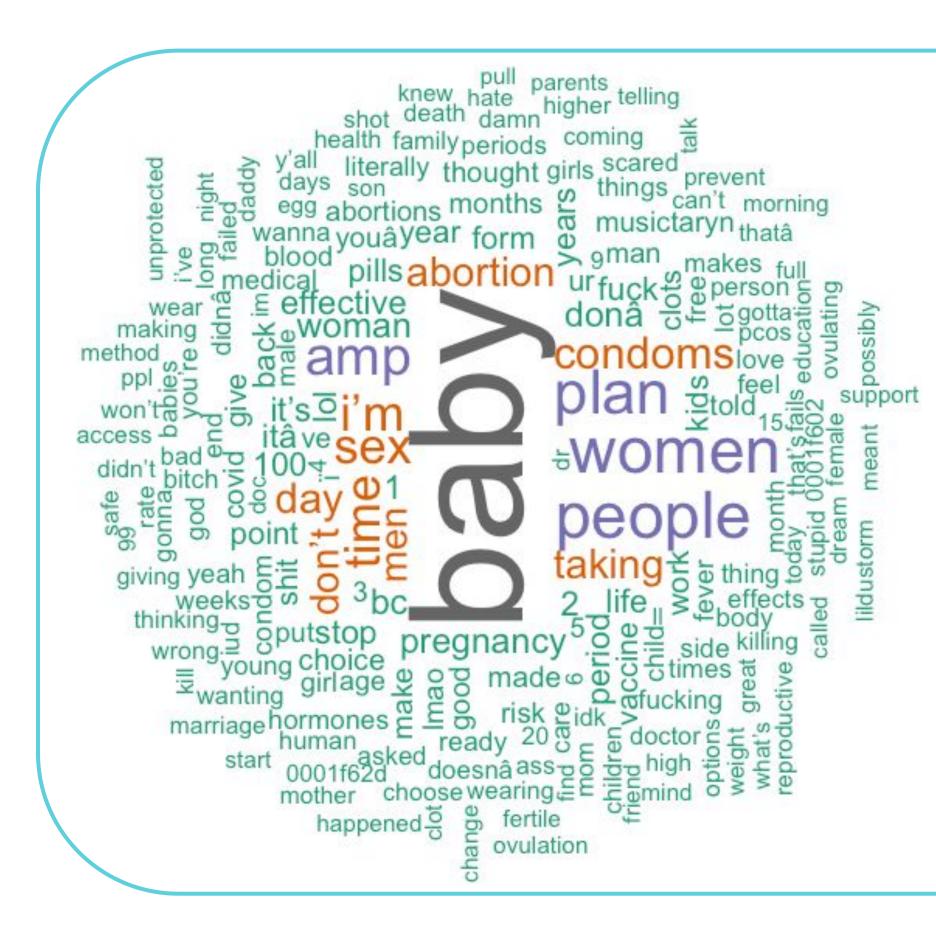


239 unique tweets 303 unique tweets

Lyhiessioii
personal
suggestion
complain
authority
question
humor
opinion
popular_belief
fact

Results

From our analysis, the most common topic related to the discussion of oral contraceptives is pregnancy. There are also substantial discussions around the pill's effect on health in general.



The word cloud on the left includes all words from tweets that were coded as relevant to the research question. There is a clear popularity of words such as "baby", "women" and "plan (B)". Most words are neutral in sentiment.

Conclusions

- General misinformation was more prevalent in tweets related to oral contraceptives than belief in the idea that oral contraceptives cause infertility was.
- Only a small percentage (%) of tweets directly mention fears of infertility due to oral contraceptives compared to the total amount of tweets about oral contraceptives in general.
- The content of the tweets returned by our search terms focused most frequently on pregnancy/being pregnant.

	Total # of Unique Tweets	% Exhibited Misinformation	% Exhibited Belief
Pull 1	549	4.55%	2.19%
Pull 2	560	4.46%	1.61%
Pull 3	542	4.24%	1.29%

- About 5% of tweets from search terms related to birth control/infertility exhibit misinformation
- About half of the tweets with misinformation exhibit belief that oral contraceptives cause infertility
- Clear difference in words associated with belief compared to overall & within relevant tweets

The word cloud on the right includes words only from tweets that exhibited belief that oral contraceptives cause infertility. Besides common words from the graph above, there are also substantial mentioning of "risk", "issue", "disease"; as well as expression of negative emotions, such as "destroy" and "shit".

Future Directions

- Expand research to include other types of contraceptives or other social media platforms, such as Instagram, Facebook, and more.
- Assess implications for sex education in the United States, as those in support of improved sexual education in schools can better format curricula and advocate for it by presenting the prevalence of inaccurate beliefs, which can impact a student's risk of unwanted pregnancy and affect their ability to stay in school.
- Learn how to data can be used to improve reproductive health outcomes for American women by learning what they believe about contraceptives and their impact on fertility.