Myths and Misinformation Surrounding Oral Contraceptives on Twitter

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\textbf{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.

\textbf{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?

\textbf{Hypothesis}

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

\textbf{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:
  - Split each set of tweets in half
  - Each team of 2 coded each half and compared
  - Coded belief (oral contraceptives cause infertility) & misinformation (general untrue statement) by binary code (0/1)
  - Determined relevancy of tweet to research question & retweet count
  - Also coded content & expression of each tweet with categories below

\textbf{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.

\textbf{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.

\textbf{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.