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Chelsea Foster
Pittsburg State University

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Recommended Citation

Foster, Chelsea, "A Comparison of Narrative and Non-narrative Messages for Promoting Zika-related Preventative Health Behaviors in At-Risk Male Populations" (2017). *Paper and Posters Presentations*. 21. https://digitalcommons.pittstate.edu/papers_2017/21

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A COMPARISON OF NARRATIVE AND INFORMATIVE MESSAGES FOR PROMOTING ZIKA-RELATED PREVENTATIVE HEALTH BEHAVIORS IN AT-RISK MALE POPULATIONS

CHELSEA FOSTER & HANNAH ISHMAEL



INTRODUCTION AND THEORETICAL FRAMEWORK

- The World Health Organization (WHO) recognizes the Zika virus (ZIKV) as a rapidly (reemerging) emerging infectious disease spread by the *Aedes* mosquito. The outbreaks started in South America and quickly spread throughout Latin America before coming to the United States.
 - Symptoms:
 - Fever, rash, conjunctivitis, muscle and joint pain, headaches, microcephaly, and even serving as a trigger for Guillain-Barre syndrome.
- The first case of the virus, in January 2016, came from a Texan patient who had recently returned from Latin America. Since then, there have been 5,158 cases of ZIKV reported in the U.S.
- Narrative theory is a persuasive theory that focuses on storytelling to influence decisions based on reasoning “derived from the narratives people engage with by way of historical/cultural and personal backgrounds” (Clair et al., 2014).
 - Previous health-related applications include cancer care (Wang, Walther, Pingree, & Hawkins, 2008), HIV/AIDS risk reduction (Jones, Hoover, & Lacroix, 2013), Colon Cancer Screening (Dillard et al., 2010), and more.

PURPOSES OF THIS EXPERIMENTAL STUDY

Due to the uncertainty surrounding the spread and acquisition of Zika, the purpose of this experimental study is to:

- (1) better understand the most effective way to communicate disease prevention information to male populations
- (2) to compare the persuasive appeals of narrative versus educational/informational disease prevention messages,
- (3) to assess the impact of these messages on disease-specific knowledge, as well as the severity of the threat and their personal susceptibility to the virus.

To do this, the study asked the following research question/hypotheses:

- H1: Narratives of matched racial identification will result in greater perceptions of
 - a.) threat severity and/or
 - b.) personal susceptibility.
- H2: Compared to educational information from the CDC, narrative messages will elicit greater perception of threat severity and personal susceptibility.
- RQ1: Will there be a difference in behavioral intentions based on the message they receive?

METHODS

- Approved by the PSU Institutional Review Board
- While serving as the Communication Research Lab's principal investigator, I designed a study with a \$250 grant to recruit participants using Qualtrics and Mturk Software.
 - August 2016: Literature Review
 - September/October 2016: Survey Design and Measurements
 - November 28, 2016-December 2, 2016: Data Collection
 - January 2017: Data analysis
 - April 2017: Findings will be presented at the 2017 National DCHC Health Conference at George Mason University in Fairfax, VA.
- Using Amazon TurkPrime & MTurk Software, the Communication Research Lab enlisted male participants over the age of 18 who had been sexually active in the last 180 days in at-risk regions, including Florida and Texas.
- Early questions assessed demographics, sexual history, knowledge tests, and gave a communication audit. In a pre- and post-test form, it measured their perceived susceptibility to and severity of ZIKV.
- Between the pre- and post-test, each participant received either a narrative or informational message depending on the survey taken.



ZIKA: Through the Eyes of a Father

November 7, 2016

WASHINGTON—Harry, 36, of Leesburg, Va., wipes away tears as he describes his family's health situation.

"I left town for a few days on business. We were told about Zika when going through customs. I just remember thinking if the bite swells pay attention and if not after two weeks the virus isn't detectable in your blood."

That small amount of information is all Harry Greer knew at the time he boarded a flight to San Paolo a little over 2 months ago.

"Never did I realize, I could carry Zika, transmit it to my wife, and onto our unborn child," Greer recalled. "Our daughter was born two weeks ago with microcephaly."

"To be honest, I don't remember any physical symptoms personally," Greer explained. "Even if I had symptoms I don't know if I would have been tested. The price our child pays now is just way too high," he states hanging his head.

Three weeks ago Greer and his wife discovered he was a carrier of the Zika virus. Greer didn't know of the steps he could have taken to avoid exposing his wife. He says he probably should have been more aware about using air conditioning or window and door screens when indoors, wearing long sleeves and pants, using permethrin-treated clothing and gear, and using insect repellents.

Two months Greer had a well-paying job as an airline pilot and was recently promoted to captain. The new position meant more time at home to spend with his wife and two children, Dylan, 5, and Alexis, 1, along with a much needed pay raise.

All of the things he once envisioned for himself and his are no longer possible, Greer said. "The medical bills are piling up, my wife and daughter need help physically and psychologically 24/7/365."

"When people get sick or hurt they go to a doctor," said Leonard Williams, Director of the Washington, DC, Community Health Project. "But right now we don't have many laboratories to process the Zika tests. The delay time between testing and results can be 2-4 weeks sometimes more," he continued. "The safest way to avoid transmission is to abstain from sex and avoid areas of high risk."

"No one ever said that a man infected with Zika can spread Zika virus during sex with a pregnant woman, or that the virus can also pass on to her fetus," Greer said. "No one told us."

Greer noticed changes in his wife shortly after his return. Her symptoms include a fever, a rash, joint pain and red eyes. "She had some muscle pain and severe headaches for about a week. That's when I realized she needed to see a doctor and went to the emergency room for help."

The news the doctors had for him was not good: It was too late since the infection was transmitted and his daughter would be born with microcephaly.

"It was devastating," Greer said.

"This whole thing has been such a heartbreaking experience. Harry used to love so much to play with our children when he got home from work," Kelly Greer said. "Now he barely gets himself dressed in the morning. He carries so much shame and guilt. It just breaks my heart."

The nightly seizures and convulsions Greer's daughter experiences are scary. He said the knowledge that all of this could have been prevented is painful.

"I should have been tested, it was the responsible thing to do," Greer said. "Mosquitoes aren't the only carriers."

His story is a daily reminder that there is no vaccine or medicine for Zika, the only thing that could have changed was his decision to be tested upon return from South America.

According to the CDC, as of June 9, 234 pregnant women in the U.S. have tested positive in laboratory tests for evidence of Zika virus infection. As of November 2016 a total of 756 cases of Zika have been reported across the country -- all in people who contracted it abroad or through sexual contact with someone who traveled abroad.



A message brought to you by the Health Promotion Board

New York, NY

hpb.org

CDC's Response to Zika

ZIKA AND SEX: INFORMATION FOR MEN WHO HAVE PREGNANT PARTNERS AND LIVE IN OR RECENTLY TRAVELED TO AREAS WITH ZIKA



What we know

- Zika virus can be spread by a man with Zika to his sex partners.
- Zika can be passed through sex, even if the person does not have symptoms at the time.
- Zika can remain in semen longer than in other body fluids, including vaginal fluids, urine, and blood.

What we don't know

- How long Zika virus can stay in the semen of infected men or spread through sex.



If you have vaginal, anal, or oral (mouth-to-penis) sex, use a condom from start to finish, every time you have sex during your partner's pregnancy.

OR

Don't have sex with your partner during the pregnancy.



If you think you may have or had Zika, tell your doctor or healthcare provider

- About your symptoms.
- If you have taken steps to prevent mosquito bites.
- If you had sex without a condom with your pregnant partner.

www.cdc.gov/zika



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

EXPERIMENTAL TREATMENTS

SAMPLE DEMOGRAPHICS

- 100% Males
- 57.4% between the ages of 18-34
- 66% identified as White/Caucasian
- 60.8% reported having a degree
- 48.3% indicated having an annual income of \$24,000 to \$54,000
- 87.6% of the participants had been sexually active within the last 30 days
- 82.9% reported receiving their health-related information regarding ZIKV from media

RESULTS: RESEARCH QUESTION #1

- Participants who received the narrative message instead of the CDC message almost always indicated greater intentions to change behavior pertaining to Zika prevention/transmission.

TABLE 1: MESSAGE IMPACT ON PREVENTATIVE BEHAVIOR

	NARRATIVE (n=161)	INFORMATIONAL (n=45)
→ Delay Family Planning	31.72 (33.73)	24.36 (33.08)
Screened/Tested	41.5 (35.27)	34.13 (37.86)
→ Abortion	20.68 (28.34)	10.49 (23.14)
Bug Repellant	59.94 (33.48)	61.42 (36.2)
Dr./R.N. for Info	38.75 (35.56)	31.13 (34.93)
Avoid Travelling	64.81 (32.94)	55.43 (37.66)
Mosquito Nets	66.98 (31.40)	61.93 (36.41)

RESULTS: HYPOTHESIS #1

- Although not statistically significant, the results were still relevant as we found an increase in perceived severity and perceived susceptibility after the participants had received the male-narrative message consisting of Zika-related information.
- The data also shows that people find ZIKV as very severe, but rank their personal susceptibility fairly low.

TABLE 2: PRE AND POST TEST FEELINGS OF SEVERITY AND SUSCEPTIBILITY				
	SEVERITY (T1)	SEVERITY (T2)	SUSCEPTIBILITY (T1)	SUSCEPTIBILITY (T2)
AA (n=15)	4.17 (.65)	4.35 (.71)	2.84 (.72)	3.00 (.78)
AS (n=11)	3.96 (.52)	4.09 (.63)	3.00 (.63)	3.30 (.83)
CA (n=106)	3.78 (.77)	4.00 (.82)	3.12 (1.04)	3.33 (1.03)
HS (n=30)	3.91 (.97)	4.18 (.91)	3.13 (.94)	3.33 (.86)

RESULTS: HYPOTHESIS #2

- Although not significant, participants that received the male-narrative message reported the severity of the virus higher than the informative; but the participants that received the informative perceived their susceptibility to the virus higher than those with the narrative.
- Limited evidence that narratives relay the severity of the ZIKV better than informative message. Also, disproves that narratives lead to a higher perception of susceptibility than the informative version.

TABLE 3: FEELINGS OF SEVERITY AND SUSCEPTIBILITY IN NARRATIVE AND INFORMATIVE FORMS				
	SEVERITY 1	SEVERITY 2	SUSCEPTIBILITY 1	SUSCEPTIBILITY 2
NARRATIVE (n=161)	3.86 (.80)	4.08 (.82)	3.09 (.97)	3.31 (.96)
INFORMATIVE (n=45)	3.76 (.85)	3.89 (.90)	3.14 (.95)	3.44 (.94)

IMPLICATIONS AND VALUE

- Although our results were not statistically significant, the data suggests that narratives can be quite helpful in health communication scenarios.
- Consider:
 - Importance of how we communicate and who we communicate to regarding public health disease outbreaks.
 - Initially communicated as a “female” health issue which led to miscommunication and lack of education.
 - It is a **Reemerging** disease; California has active ZIKV circulation in 129 counties as of April 3rd.

CONCLUSION

- SINCE THIS INITIAL ANALYSIS, WE HAVE RE-ANALYZED THE DATA USING THE VARIABLES OF NARRATIVE THEORY CONCERNING IDENTIFICATION, TRANSPORTATION, AND INFORMATION-SEEKING/SHARING BEHAVIORS.
 - This study is currently under review with the National Communication Association Health Communication division and the Health Education Journal at this time.

ACKNOWLEDGEMENTS:

Dr. Alicia Mason, Hannah Ishmael, Karly Kownslar