REDUCING MUSLIM MAMMOGRAPHY DISPARITIES: OUTCOMES FROM A RELIGIOUSLY-TAILORED MOSQUE-BASED GROUP EDUCATION INTERVENTION

Sana Malik, MSW, MPH, DrPH & Aasim I. Padela, MD, MSc

INITIATIVE ON ISLAM AND MEDICINE

THE UNIVERSITY OF CHICAGO

American Cancer Society®

AIMS

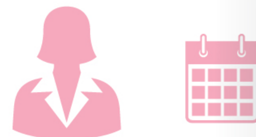
- Describe the “religion-based” design elements of a mosque-community based intervention to reduce mammography disparities in American Muslims
- Describe the 3R Model for developing religiously-tailored messages
- Share participant-level outcomes

BACKGROUND

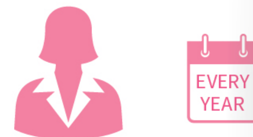
Breast cancer is the second leading cause of cancer death among American women, and screening mammography is a proven method to reduce its mortality.

American Cancer Society Recommendations for the Early Detection of Breast Cancer

Guideline for women at ***average risk*** for breast cancer



Ages 40 – 44
Woman should have the choice to start annual breast cancer screening with mammograms if they wish to do so.



Ages 45 – 54
Woman should get mammograms every year.

Age 55 and older
Women can switch to mammograms every two years, or can continue yearly screening. Screening should continue as long as a woman is in good health and is expected to live 10 more years or longer.

©2017 American Cancer Society, Inc. All rights reserved. The American Cancer Society is a qualified 501(c)(3) tax-exempt organization and donations are tax-deductible to the full extent of the law.

AMERICAN MUSLIMS & MAMMOGRAPHY SCREENING

- Population: ~5-7 million
  - Ethnically/Racially Diverse (20-24% African American, 18-26% South Asian, 24-26% Arab)
  - 50% attend mosque community weekly

- Muslim women in the US have lower mammography rates than national averages (73.7%) and the Healthy People 2020 goal (81.8%):

  Mammography Rates- Scant research
  - Mammogram Ever- 69-73%
  - Biennial– 52-61% [37% not adherent in our prior study]

AMERICAN MUSLIMS & MAMMOGRAPHY SCREENING

- Factors that inform lower screening rates:
  - Access-related barriers – Lack of insurance, lack of PCP, language barriers
  - Cultural & religiously mediated beliefs – modesty, fatalism
  - Interpersonal factors – Prioritizing well-being of family members, lack of support for health promotion
- Religion Impacts Healthcare Decisions among diverse Muslim populations:
  - Framework for understanding disease and means for its removal
  - Ethico-legal guidelines inform healthcare choices
  - Religious Identity/Religiosity increases exposure to discrimination

DEVELOPING A RELIGIOUSLY-TAILORED MAMMOGRAPHY INTERVENTION IN MOSQUE COMMUNITIES

Community Partnership Building

-Council of Islamic Orgs of Greater Chicago

-Muslim Women Resource Center

-Arab American Family Services

-Compassionate Care Network

Evidence Gathering

- Phase 1- Community Surveys (n=240)

- Phase 2-Mosque-based Focus Groups (50 women)

- Phase 3-Key Informant Interviews (n=19)

Mosque-Based Intervention Design & Deployment

- 3 Sermons in 2 Mosques

Post-Surveys (n=74)

Post-Interviews (n=32)

- 2-session Peer-led health education workshops

(n=58)

American Cancer Society®

Initiative on Islam and Medicine

The University of Chicago

CARING FOR BODY & SOUL: A WORKSHOP ON WOMEN'S HEALTH

- 2 half-day sessions held at 2 mosque communities (1 S. Asian dominant, 1 Arab)
- Utilized peer-educators and guest lecturers, including a religious scholar and female physician, to deliver didactics and facilitated discussion sessions
- Topics included:
  - Breast cancer
  - Mammography guidelines
  - Religion and health
  - Resources and access for breast cancer screening

ADDRESSING BARRIER BELIEFS

The 3R Model

- **Reframe**: “switch train tracks”
  - Keeping the belief intact but change the way one thinks about it so it is consistent with the desired health behavior
- **Reprioritize**: “show them a better train”
  - Introduce another religious belief that has greater resonance with participants such that the barrier belief is marginalized
- **Reform**: “breakdown the train carriage”
  - Negate the barrier belief by demonstrating its faults by appealing to authority structures

BARRIER BELIEFS & TAILORED MESSAGING

Barrier Belief (Relation to TPB)	Possible Strategy to Craft Messages		
	Reframe	Reprioritize	Reform
I believe mammograms are painful. (Behavioral belief)	The pain incurred on the path to completing a good deed (e.g. caring for my body) is rewarded by God.	Introduce the notion that Islam considers there to be a stewardship responsibility to care for one's body and that obtaining mammography screening fulfills this responsibility.	***Reforming the barrier belief is not applicable*** because mammograms are actually painful.
As a Muslim woman, I am more comfortable with a female provider. (Normative Belief)	Most mammography centers have all female staff so I can live out the concordance mandate.	Introduce the notion that the duty of stewardship outweighs Islamic modesty guidelines.	Introduce the notion that although gender concordance is preferred, in extenuating circumstances religious exemptions exist.
My family's needs and priorities are more important to me than my own needs OR they "should" come first. (Control Belief)	I cannot take care of my family if I do not take care of myself first.	Introduce the notion that you have the duty to care for the body God bestowed upon you.	Introduce the notion that the Quran and hadith support making dua for yourself first and the idea of self-preservation. Your primary responsibility is yourself and then others.

BARRIER BELIEFS & TAILORED MESSAGING

(CONTINUED)

Barrier Belief (Relation to TPB)	Mapping Messages to Group Education Activities
I believe mammograms are painful. (Behavioral belief)	-The *reframing & reprioritization messages* were delivered by a female religious scholar in a didactic entitled “religious dimensions of health”.
As a Muslim woman, I am more comfortable with a female provider. (Normative Belief)	-The *reframing message* were delivered by a female religious scholar in didactic -The *reprioritization message* was also part of the religious scholar didactic and in a breast cancer survivor led didactic entitled “Survivorship story.”
My family’s needs and priorities are more important to me than my own needs OR they “should” come first. (Control Belief)	-The *reframing message* was utilized during a peer educator led icebreaker session. -The *reframing & reforming messages* were delivered by a female religious scholar in a didactic entitled “religious dimensions of health”.

MEASURES

- Survey data was collected pre-intervention, post-intervention, and one-year post intervention
- Outcome variables included:
  - Perceived mammography intention, likelihood, and confidence
  - Breast Cancer and Mammography Knowledge
  - Receipt of mammograms

DEMOGRAPHIC CHARACTERISTICS

Table 1. Sociodemographic characteristics of study participants (N = 58)	
Age (n = 44)	%
Less than 50	45.5
50 or older	54.6
Race/Ethnicity (n = 52)	**%**
South Asian	55.8
Arab/Arab American	34.6
Marital Status (n = 55)	**%**
Married	89.1
Widowed	3.6
Divorced/Separated	7.3
Country of Origin (n = 54)	**%**
South Asian	55.6
Arab World	25.9
United States	9.3
Education (n = 56)	**%**
Less than High School	12.5
High school diploma/GED	19.6
Associates Degree	19.6
Bachelor's level or equivalent	33.9
Advanced degree	14.3
Annual Income (n = 46)	**%**
Less than $20,000	40.0
$20,000 - $49,999	37.0
$50,000 - $74,999	13.0
$75,000 or more	13.0
Health Insurance (n = 51)	**%**
Yes	72.6

CHANGES IN INTENTION

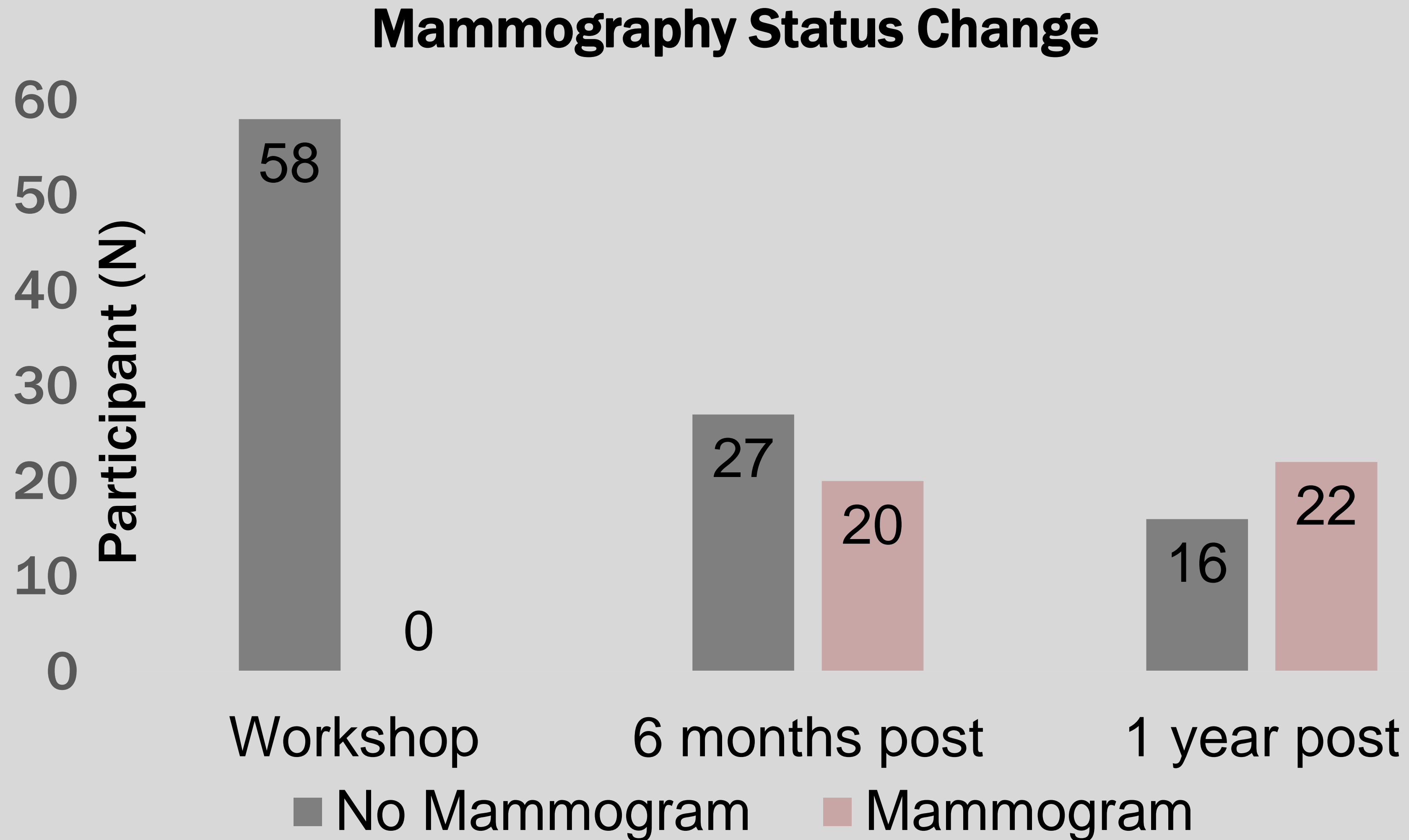
Table 2. Changed mammography intention and other proxies

Measure	Mean Δ (P-Value)	
	Pre to Post	Pre to 6-month
Intention	0.19 (0.15)	0.04 (0.74)
Likelihood	0.29 (0.01)	0.20 (0.15)
Confidence	0.18 (0.25)	0.32 (0.08)

CHANGES IN KNOWLEDGE

Table 3. Mean change in mammography knowledge N = 58	
Measure (Δ Scores)	Mean Δ (p-value)
Mammography Knowledge	0.53 (0.0002)

MAMMOGRAPHY RECEIPT



FEASIBILITY & ACCEPTABILITY

- Feasibility:
  - 1 mosque site pulled out last minute as did a religious scholar
  - Priorities of mosque leaders ever-changing (“under siege”)

- Acceptability:
  - Peer educators and advisory board members helped develop messages and curricula without controversy
  - Participants found content overwhelmingly important and desire more health focus in the mosque communities

ENGAGING RELIGIOUS IDENTITY IN THE PROJECT FAITH-BASED VS. FAITH-PLACED

- Study Design (religious identity)
  - Sampled women from various ethnicities from MOSQUES
- Data Analysis (religious beliefs & values)
  - Identified beliefs (facilitators/barriers) informing mammography intention by analyzing shared (salient & dominant) beliefs appearing across racial/ethnic diversity in the FGs
- Intervention Design (religious community)
  - Set in mosque communities
  - Community Advisory Board of Muslim community stakeholders

Initiative on Islam and Medicine
The University of Chicago

IMPLICATIONS

- Future research, in larger samples, should examine the individual and cumulative effectiveness of each of the 3R techniques in addressing barrier beliefs.
- Our program suggests religious beliefs and mosque structures can be leveraged to promote preventive health in Muslim American communities
- This program further provides insight about strategies and elements that breed successful outcomes and allow for model portability across faiths

ACKNOWLEDGMENTS

Academic

Shaheen Nageeb, MD
Stephen Hall, MPH
Hena Din, MPH
Nadia Ahmed MPH, MBA
Hadiyah Muhammad MPH
Milkie Vu MA
Syeda Akila Aly
Ahamed Milhan
Dr. Michael Quinn
Dr. Monica Peek

Funders

American Cancer Society (Institutional Research Grant #58-004, Mentored Research Scholar Grant in Applied and Clinical Research)

Community Advisory Board, Imams, & Mosque Staff

Fatema Mirza
Nancy Romanchek,
Shehla Diba,
Anam Eljabali,
MahRukh Mian,
Kifah Shukair,
Masood Iqbal,
Luma Mahairi,
Lynn Salahi,
Beenish Manzoor,
Ayesha Sultana,
Shaykh Kifah Mustapha,
Mufti Nazim Mangera,
Kamran Hussain,
Amanat Ansari,
Ali Tai, Lila Zegar,
Rula Zegar,
Aisha Rahima,
Badie Ali, and Elham Atieh.

Initiative on Islam and Medicine
The University of Chicago

3R MODEL FOR RELIGIOUS TAILORING

Developing religiously-tailored health messages for behavioral change: Introducing the reframe, reprioritize, and reform ("3R") model

Aasim I. Padela[a,b,c,*], Sana Malik[a,d], Milkie Vu[a], Michael Quinn[e], Monica Peek[e]