

Reducing Disparities in Mammography Screening among American Muslim Women through a religiously-tailored mosque-based intervention



Syeda Akila Ally BA¹, Aasim Padela MD MSc^{1,2,3}, Sana Malik MSW MPH DrPH¹, Stephen Hall MPH¹,
Monica E. Peek MD MPH MSc², Michael T. Quinn PhD²



¹The Initiative on Islam & Medicine, ²Department of Medicine, ³Comprehensive Cancer Center, The University of Chicago

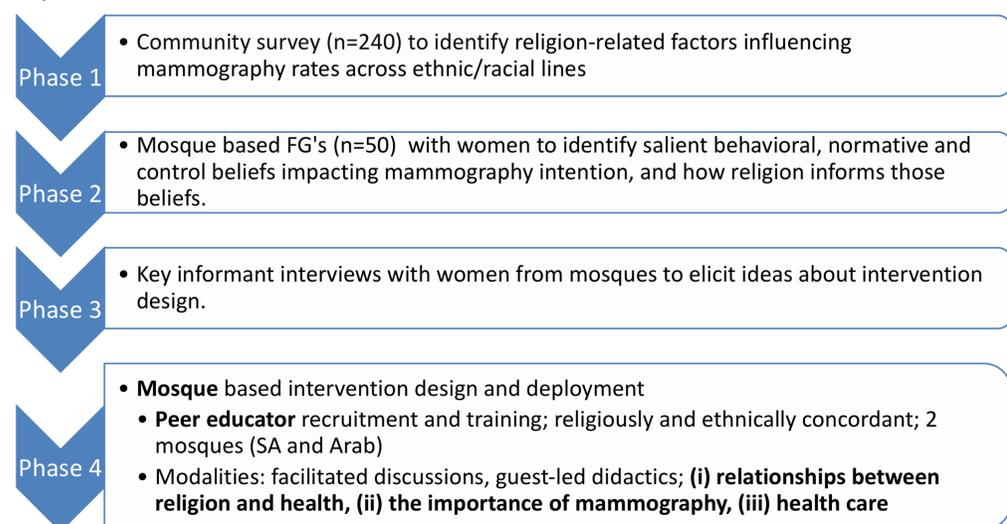
BACKGROUND

- Breast cancer (BC) is the 2nd leading cause of cancer death among American women
- Mammography screening facilitates early detection and reduced mortality from BC
- Globally**, BC survival rates vary: >80% in HIC; 60% in MIC; <40% in LIC
- One factor in low survival rates mainly is lack of early detection (only 2.2% of women in LMIC's received any BC screening)
- In the **U.S.**, CDC goal is for 81% of U.S. women over 40 to receive mammogram.
 - In 2016, 65.3% had a mammogram
 - Disparity**: Rates were disproportionately low among racial and ethnic minorities
- Muslim women have low rates of mammography. For example, community surveys reveal:
 - 52% of women in Chicago (N=207) had obtained a mammogram in the past two years, BUT 33% had never had a mammogram [1]
 - 42% of Arab women (n=365) from Detroit reported not having a mammogram every 1-2 years,
- Barriers include:
 - Access-related barriers: health insurance, lack of primary care provider, LEP, health literacy
 - Cultural & religiously mediated beliefs: modesty; fatalism; religious coping
 - Other: fear of positive result, or pain; lack of knowledge; prioritizing well-being of family over self
- To date, there are few effective models for addressing religion-related barrier beliefs through religious tailoring; and no experience with religious-tailoring interventions for a racially and ethnically diverse group of American Muslims.

METHODS

Objective: Address barriers to obtaining mammography through faith-based and faith-placed approach

Community Advisory Board: Community-based participatory research methods were used including convening a multi-disciplinary community advisory board to inform project design and implementation.



Measures:

- Survey data collected pre-intervention, post-intervention, 6 months post-intervention, and one-year post intervention
- Survey instruments recorded changes in mammography intention, likelihood, and confidence, breast cancer screening knowledge and resonance with barrier and facilitator beliefs

FINDINGS

Table 1. Sociodemographic characteristics of study participants (N = 58)

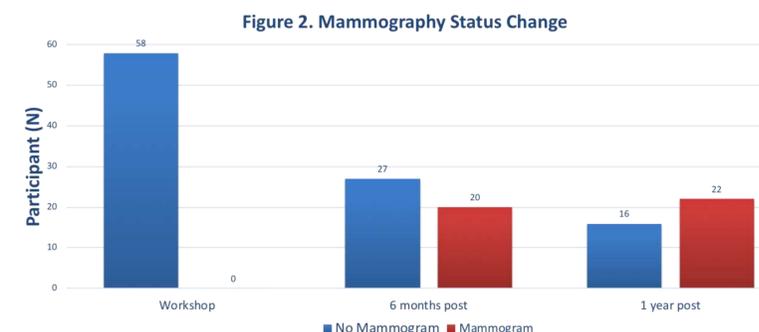
Characteristic	%
Race/Ethnicity (n = 52)	
South Asian	55.8
Arab/Arab American	34.6
Marital Status (n = 55)	
Married	89.1
Widowed	3.6
Divorced/Separated	7.3
Country of Origin (n = 54)	
South Asian	55.6
Arab World	25.9
United States	9.3
Education (n = 56)	
Less than High School	12.5
High school diploma/GED	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

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)

Table 3. Changed mammography likelihood pre-to post-intervention (N = 40)

Baseline Predictor	Odds Ratio	p-Value
Barrier Beliefs	0.80	0.03
Married	37.69	0.02
Income	1.47	0.31



INTERPRETATION

Effectiveness:

- 58 participants in this intervention: 29 (50%) never had a mammogram and 27 (46.6%) had not had one in the past 2 years. Our intervention was effective in that 22 participants (38%) had received a mammogram within one year of the classes.

Outcome:

- primary outcome of changed intention/ likelihood/ confidence for mammograms pre-post there was a statistically significant increase in mean perception of likelihood to obtain a mammogram (**0.29, P = 0.01**).
- Participants with greater barrier beliefs at baseline had less perceived likelihood of getting a mammogram (OR=0.80, p=0.03).
- Participants who were married women had a greater perceived likelihood of getting a mammogram (OR=37.69, p=0.02),

Study Design:

- The study used multiple modalities to convey the message, including use of religious scholars, physicians and community-based peer educators who are religiously and ethnically similar to the participant cohort.
- This study is novel in its use of both faith-placed and faith-based messaging for American Muslim women

Community Focus

- Hosting the sessions at mosques facilitates connection of religion to health and fosters a culture of health in the community.
- Inclusion of the community in curriculum development and participant recruitment gives the community an intrinsic role in their own wellbeing.

Impact:

- Effective religiously-tailored** intervention
- Targets cancer screening disparities
- Potential applications** in designing cancer screening interventions for women, **globally and specifically in LMIC and LIC countries.**

REFERENCES & ACKNOWLEDGMENTS

[1] Hasnain, M., Menon, U., Ferrans, C. E., & Szalacha, L. (2014). Breast Cancer Screening Practices Among First-Generation Immigrant Muslim Women. *Journal of Women's Health, 23*(7), 602-612. doi:10.1089/jwh.2013.4569

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