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Acknowledgements

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INNOVATION HIGHLIGHT

Community as Medicine: A Trauma-Informed Yoga Program for Multi-Cultural Female Immigrants Identified in the Primary Care Setting

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Introduction:	The immigrant population in Maine represents a unique group of patients with complicated health care needs due to cultural, linguistic, and systemic barriers. We sought to bridge gaps in health access for immigrant women by expanding and integrating community resources through the development and evaluation of a trauma-informed yoga class.
Methods:	A needs assessment via a focus group with immigrant women revealed barriers to care and community health needs. Health partners of the immigrant community were identified via word of mouth and a Google search. Yoga participants were recruited in the primary care clinic and by community outreach. Participants underwent program evaluation, which informed development of the program.
Results:	Over 16 months, 52 immigrant women participated in the class. Participants reported reduced social isolation, improved mood, and chronic physical pain. We reduced common barriers to attendance, such as cost, childcare, and transportation. Funding was obtained via the Innovation Cohort and private donations.
Discussion:	A group-based yoga class promoted community building among participants. Alleviation of systemic barriers and collaboration between community partners and primary care providers was critical for success.
Conclusions:	The model for this program may guide further community-based wellness options for immigrant communities in Maine.
Key Words:	yoga, immigrant health, alternative medicine

Populations fleeing violence and trauma often carry a high burden of mental illness.¹ Refugees have higher rates of post-traumatic stress disorder (PTSD), anxiety, and depression, as well as chronic pain.²⁻⁴ Cultural barriers surrounding mental health, health literacy, and the complexity of the American health care system also impede reliable and holistic access to primary care and

ancillary services.^{4,5} Systemic barriers, such as a lack of reliable childcare, transportation, and socioeconomic hardship, also hinder the continuity of care needed to treat chronic pain and behavioral health disorders.⁶ In one study, Somali women in Maine were concerned about their physical health, but noted several barriers to exercise, including cost and lack of women-only exercise classes.⁷

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Yoga may be an adjunctive remedy to treat stress, anxiety, depression, PTSD, and chronic low back pain. It is beneficial in improving emotion

regulation, self-efficacy, stress reduction, and sleep disturbance,⁸ as well as for victims of trauma.^{9,10} Trauma-informed yoga is a form of yoga that focuses on respecting the participants' physical space while heightening connection to the physical self.¹¹

We describe the development of a low-cost community program leading trauma-informed yoga for immigrant women identified in the primary care clinic. The program focused on reducing barriers limiting attendance and was supported by community partnerships, donations, and commitment of participants.

METHODS

Needs assessment

We assessed the need for community wellness resources for the immigrant community in Portland, Maine from January 2018 through April 2018. We located existing resources for immigrant community wellness that offered community exercise opportunities in the greater Portland area by word of mouth and a Google search.

A needs assessment via focus group was conducted in June 2018 at Maine Medical Center (MMC). Focus group inclusion criteria included women over 18 who spoke Arabic and resided in Maine. Participants were recruited through word of mouth from local community partners, an interpreter, and cross-cultural services. The focus group examined participants' perceived quality of self-health, barriers to achieving good health, and preferences for health care interventions (Table 1a). Interviews were facilitated by an in-person Arabic interpreter, and then the transcript was recorded and analyzed for themes. Participants received a \$25 gift card to a grocery store for their participation. This focus group was reviewed by the MMC Institutional Review Board (IRB) and deemed not to be research (IRB # 1239330-2).

Program development

We partnered with several existing community resources for immigrant wellness to develop the program from June 2018 to August 2018. Outreach to primary care providers was carried out from August 2018 to October 2018. The pilot 8-week yoga program started November 2018. Continuous

programming occurred from January 2019 through April 2020.

The yoga class ran for 1 hour in the morning on Mondays at the YMCA of Southern Maine. The class was taught in English by Sea Change Yoga, a nonprofit organization offering trauma-informed yoga to underserved populations in southern Maine. A taxi ride service was provided upon request. Childcare was provided by the YMCA of Southern Maine. Lawyer-reviewed liability waivers were created and translated into French, Spanish, Somali, and Arabic. All services were provided at no cost to the participant.

Participant engagement

Participants were referred from their primary care providers and social workers from the MMC Internal Medicine Clinic, as well as other community organizations. Initial outreach to recruit participants via informational emails and flyers was carried out from August 2018 to October 2018. Referral guidelines included female immigrants over 18-years-old who feel socially isolated or have chronic pain, depression, or PTSD. Additional outreach to clinic providers occurred at the start of each 8-week class series. Referrals were placed to the coordinator via in-basket message in the electronic medical record. Potential participants consented for a call from the project coordinator at the time of referral. Volunteers called or texted participants each week to remind them of their class appointment.

Program evaluation

We surveyed participants in December 2018, October 2019, and April 2020. Inclusion criteria included participation in at least 1 class in the prior 6 months. Evaluation focused on barriers to class attendance, perceived generalized pain, and open-ended feedback for class improvement (Table 1b). In 2018, surveys were available in English, Arabic, Somali, French, and Spanish, and were completed in-person on paper. Subsequent surveys were conducted via telephone with interpreter services. Volunteers called the participant with a third-party interpreter present. Volunteers wrote down the responses relayed by the interpreter and analyzed results post-hoc. This evaluation was reviewed by the MMC IRB and deemed not to be research (IRB # 1376150-1).

Funding

The pilot class was funded by the Innovation Cohort. Additional funding was provided by private donations to Sea Change Yoga and a project-specific crowdfunding platform run by the project coordinator. The YMCA of Southern Maine donated the yoga space and materials.

Modifications

This intervention required several iterative changes. Referral volume was low with the initial Arabic-speaking cohort, requiring expansion of referrals to all immigrant women. Weekly reminder messages to participants were implemented after initial low attendance rates. Consistent attendance by program collaborators was started in the early stages of the project to help orient new attendees, but this was stopped as participants became more comfortable navigating the class. Yoga instructors were counseled on avoiding any yoga poses or practices resembling religious customs. Program evaluation was changed from translated paper surveys to interpreted oral surveys to improve participant comprehension of the survey questions.

RESULTS

Program development

Review of the available immigrant services in Portland, Maine revealed several prior wellness resources, including swimming, yoga, and dance for immigrant women. One organization was currently offering group dance to immigrant women. Immigrant yoga programs were not well attended by the Arabic-speaking community. Given this finding, our needs assessment focused on elucidating the wellness needs of this population.

We recruited 12 Arabic-speaking immigrant women to participate in the focus group. They reported barriers to wellness, including mental health, prior and current trauma, chronic pain, and barriers to transportation and childcare. They reported interest in a community exercise class that was local, women-only, for multilingual participants, and taught in English without an interpreter. Day-time hours were favored due to immigrants having school-aged children at home. Reported barriers to attendance were childcare and transportation. Most women preferred transportation by car.

We partnered with community wellness resources that sought to engage the immigrant community. The YMCA of Southern Maine had recently developed a New American Welcome Center for the immigrant community. We selected the YMCA of Southern Maine as a location due to free entry and childcare, a centralized location, inclusion of yoga equipment in the class, and privacy. Sea Change Yoga focused on trauma-informed yoga and was interested in expanding their classes to the immigrant community. Further logistics were implemented in response to the needs outlined by the focus group.

Program outcomes and evaluation

From September 2018 to April 2020, 81 women were referred to the program. 12 women attended a pilot class series for 8 weeks starting in November 2018, and 52 women participated in at least 1 class between December 2018 and April 2020. Participation and referral characteristics by class cohort are described in Table 2. Representative themes and illustrative quotes from program evaluation are described in Table 3.

DISCUSSION

We report that a referral-based community program for trauma-informed yoga can alleviate pain, build community, and improve mood among female immigrants. Because community engagement for immigrants can mitigate the effects of social isolation, discrimination, and migration losses, it may benefit members of the immigrant community who have a history of trauma. Our findings, combined with prior studies, show that interventions such as yoga may be considered part of the multifaceted care offered for immigrant patients with a history of trauma.

The collaborative nature of primary care providers, social workers, project coordinators, and community groups is critical to support the needs of immigrants. Inherent to the project's development was the identification and collaboration of community resources with primary care providers. Strategies for successful community partnerships include mutual interest and objectives, alignment of project goals, and continued re-evaluation of program progress and goals. Integration of community resources within the primary care clinic can help practitioners identify and engage psychosocial support with a cultural lens.

Table 1. Focus Group and Yoga Class Participant Evaluation Guide

a. Focus Group Interview Guide

What is health?
What parts of your health matter to you?
Would you describe yourself as healthy? Why or why not?
How has your health changed since you have moved to Maine?
What are barriers to being healthy?
Explore possible barriers: cost, time, childcare, transportation, gender-exclusive, language
What are preferences for a health care group class?
What type of class would be preferred (eg, movement, dance, swimming, art)
What location would be best?
What time of day would be best? What day of week works best?
Is childcare important?
Is transportation a barrier?
What are other types of activities that we could offer?

b. Participant Program Evaluation Questions

Participant Characteristics
How many classes did you participate in?
Did you utilize transportation?
Did you utilize childcare?
How did you hear about this class?
Yoga Reflection
Do you have pain?
Does your pain interfere with your enjoyment of life and general activity?
How has the yoga class impacted your life?
Did you have any barriers to attending the class?
Do you have any other feedback about the class?

Table 2. Participation and Referral Characteristics of Participants in the Immigrant Yoga Classes by Class Cohort

	December 2018 (n = 10)	October 2019 (n = 10)	April 2020 (n = 7)
Mean number of classes attended	3.2	5.2	6.2
Used Transportation/Childcare	40%	67%	86%
Referred by clinic (doctor/social worker)	50%	100%	57%
Stated they would return	100%	89%	86%

Table 3. Themes and Subthemes with Illustrative Quotes from Yoga Participants

1. Alleviation of Pain	
Physical Pain	<p>“[It] is very nice for my body. I feel less tight, more flexible. My hip pain is better now. My belly pain has improved.” ‡</p> <p>“I like it for the movement. Before I had pain in my knee and it helps. Before I could not move my left hip and now it's better.” †</p> <p>“The exercise was making the pain better. It did help with the pain, especially in the knees, I was able to walk better after the class.” *</p> <p>“I have it for a lot of pain, for my back, legs. It has the power for my legs after going to yoga. Sometimes I do it in my home now with YouTube. The class is very good for the people. The (other) women are very good. If you have a lot of pain, and you make relax, it can help a lot.” ‡</p>
Relaxation	<p>“Moving my body in those ways helped me relax more. It also always made my headaches go away.” *</p> <p>“It helped me to lessen my stress, and when I was in class, I saw other people and it made me enjoy the time when I was at class. When I went, it would help me, especially the deep breathing.” *</p> <p>“I really like that it's relaxing, helps to calm down and you get to know people. And you get to start your day with energy and movement.” *</p>
Energy	<p>“[It was] very useful, the exercises we were doing made me feel more energetic. Everything- the teacher, the people, everything was just great.” *</p> <p>“It made me feel active and happy and I felt relaxed and enthusiastic about coming to yoga.” *</p>
2. Community Building	
Improvement in Social Isolation	<p>“I feel better now that I go to the yoga class, I feel more relaxed and it gives me something to do. Before, I was always alone while my husband was at work. I do not have headaches anymore. Before I had headaches all the time.” *</p> <p>“I was home alone with nowhere to go. This class gave me a place to go and be social.” *</p> <p>“I was new to Maine and to the US. I did not know anyone before yoga. I had no friends. Now I have friends from this group who ask about me even when there is no yoga.” *</p>

Table 3 (continued)

Sense of Be- longing	<p>"I look forward to Monday to go to yoga. I enjoy it so much. I have friends and a sense of belonging. I live alone and do not go out much or see any people. I look forward to Sunday call to check in and arrange transportation for yoga, now I have friends here. This class brings me happiness." *</p> <p>"I like it so much. I'm in my house a lot. The people in the taxi are so nice, the teacher is excellent. ...everyone says hi and we greet each other. The class helped [me] relax." *</p> <p>"It makes me happy. It makes me feel important, more excited, like I have a reason to put on clothes. I have friends here." †</p>
3. Improvement in Mood	
Concentration	"It helps me a lot. Improved [my] concentration [and my] ability to relax." *
Sleep	"For me, I like it. I like the environment, the coach (teacher); and the exercise is helping me. After the exercise I feel better. I sleep better now. I used to not sleep very well." ‡
Stress Allevi- ation	"It helped me to lessen my stress, and when I was in class, I saw other people and it made me enjoy the time when I was at class." *

Key: *Oral interview via interpreter, †Written statement in English, ‡Oral interview in English

A comprehensive needs assessment and iterative program evaluation was critical to meeting the needs of the immigrant population. Previous yoga programs for immigrants in Maine reported problems with transportation, inconsistent attendance, and cultural barriers. Providing transportation and childcare and instituting weekly reminders were crucial to attendance. In addition, understanding cultural differences, such as removing religious undertones of yoga, was essential to allow all participants to feel safe and welcomed.

Our results have several limitations. The small sample size and unique backgrounds of participants may make this intervention difficult to reproduce. In addition, survey results are limited by self-reported outcomes and potential for non-response bias. Further, program evaluation was conducted with unvalidated survey tools, making results difficult to interpret.

CONCLUSIONS

Implementation of a community-based yoga class addresses a gap in trauma-based care. The power

of community, exercise, and social interaction. The practice of yoga is a low-barrier intervention requiring little equipment, has few known harms, and allows social interaction with exercise. This intervention also appears to reduce somatic pain and depression, though more research is needed to explore this effect. Through better access to community resources, immigrant women may be empowered to build their own communities. We expect these findings may help guide similar programs on how to integrate community-based health resources into the primary care setting.

Conflicts of Interest: None

Acknowledgements: We want to acknowledge Sea Change Yoga and the YMCA of Southern Maine for their funding as well as collaboration on this project. We would like to thank Jennifer Monti MD of the Innovation Cohort, Katherine Sharp MD, Cora Best Esq. and Kate Fortin for their contributions to intervention implementation and design, as well as Kathleen Fairfield MD, DrPH, MPH and Jenny Carwile ScD for their review of this manuscript.

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