

Wombs, Washes, and Wisdom

Translational Ethnobotany and the Plant Healing Practices of Haitian Women in the Diaspora

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ABSTRACT

Community-driven research is important in studies involving women as knowledge holders, as it elevates their voices and agency. This case study adapts the concept of “translational research” following an ethnobotanical survey of Haitian women in New York City (NYC). Moving beyond documenting medicinal plants for women’s health, Haitian participants in community centers were engaged in transforming research findings into practical tools through focus group discussions, in which they re-evaluated and refined the outcomes based on their traditional knowledge and preferences. This collaboration resulted in co-created educational materials—compiled by researchers but authored by Haitian women—that are available in Haitian community centers in NYC and online. This model showcases translational ethnobotany, in which research proactively engages communities to generate practical resources that support their health, knowledge sharing, and cultural heritage. Future ethnobotanical surveys and funding bodies should recognize translational outcomes as essential for ensuring that research benefits communities at its core.

Keywords: Diaspora communities, Caribbean traditional medicine, immigrant health, health communication, ethnobiology, community outreach, Haitian Americans United for Progress, urban ethnobotany, women’s health

Introduction: From Haiti to New York: Women, Plant Medicine, and Translating Traditional Knowledge

Traditional medicine remains an essential healthcare resource worldwide, valued for its availability, accessibility, and affordability—especially in underserved rural and urban communities, as well as among immigrant populations in metropolitan areas (Vandebroek

2013). Although international health agencies have shown increasing interest, the broader significance of traditional medicine remains underrecognized (Hoenders et al. 2024). As a culturally grounded and community-centered system of care, it emphasizes self-management, health agency, social support, and spiritual well-being. However, these dimensions are frequently overlooked in policy, clinical practice, and academic research (Vandebroek 2023).

Women's traditional plant knowledge has similarly been marginalized in ethnobotany, the academic discipline that examines the relationships between people and plants (Nolan and Turner 2011). Historically, most ethnobotanists have been men, resulting in the underrepresentation of female knowledge holders in interviews, often in favor of older male community members (Howard-Borjas 2001). Even when researchers have included women in ethnobotanical studies, topics such as women's health were often left unexplored or generalized (van Andel, de Boer, and Towns 2015). Moreover, plants used for a wide range of reproductive health conditions, ranging from vaginal infections to ovarian cysts and fibroids, have often been grouped in the broad category of 'reproductive health' or 'women's issues' when analyzing data. This has widened the gap between academic and traditional knowledge systems, as many of the plants used by women remain significantly understudied in terms of safety and biomedical efficacy (van Andel, de Boer, and Towns 2015). At the same time, it is essential to recognize that medicinal plant knowledge has proven social and cultural efficacy, which does not require epistemological validation through laboratory studies to be meaningful or legitimate (Vandebroek 2023).

It is important to highlight the active role of women in Indigenous and traditional knowledge systems. For example, our work with first-generation Haitian women living in New York City (NYC) has demonstrated the continued cultural significance of using plants as medicine, both in Haiti and among the Haitian diaspora

(Vardeman, Kennelly, and Vandebroek 2024). Until our original research study, the most comprehensive ethnobotanical study on Haitian women's health was conducted in the 1980s (Weniger, Haag-Berrurier, and Anton 1982). Haitians, both in the Caribbean and the diaspora, have continually faced systematic oppression and repercussions of colonization since the 1400s when the Spanish first arrived on the island of Hispaniola (Laguerre 2016). As a result, essential resources, such as medical care, are not evenly accessible across Haiti (Gibson et al. 2013). The use of medicinal plants in Haitian culture is a testament to the resilience of the Haitian people in the face of health inequality.

By highlighting the role of Haitian women as essential knowledge holders, we aim to amplify their voices by bridging academic research and lived experience, and by creating culturally meaningful ways to return this transdisciplinary knowledge to the source community. In our previous academic research (Vardeman and Vandebroek, 2022; Vardeman, Kennelly, and Vandebroek, 2024), we aimed to understand the breadth and depth of medicinal plant knowledge and use among Haitian diaspora women currently residing in NYC. Building on these insights, this case study explores the ongoing role of plant medicine in Haitian cultural identity and situates our work within the framework of translational research. Initially developed in the biomedical sciences, *translational research* refers to the process of bridging research findings and practical applications to generate accessible and impactful outcomes that improve health and well-being (Sung et al. 2003; Zerhouni 2003).

Extending this concept, we propose the term *translational ethnobotany* to describe research that actively conveys traditional plant knowledge into culturally meaningful, community-informed outputs that support both health and cultural heritage

Research mixed methods overview

Research methodology

The research methodology for the ethnobotanical survey is described in detail elsewhere (Vardeman, Kennelly, and Vandebroek 2024). Briefly, after obtaining Institutional Review Board (IRB) approval, 100 Haitian women were recruited through convenience and snowball sampling in the Haitian neighborhoods of Flatbush, Brooklyn (Little Haiti), and Jamaica, Queens (Tongco 2007). Most of the participant recruitment was conducted through Haitian community organizations, including Haitian Americans United for Progress (HAUP). Several staff members at HAUP acted as translators during interviews in Haitian Creole. When we initially began recruiting participants for our research, we primarily visited *botánicas*, Caribbean-serving healing stores, around the city. However, we found that Spanish-speaking Caribbean immigrants visit these stores more frequently. We learned that community organizations, such as HAUP and Haitian churches, were the most effective outlets for recruiting participants due to their proximity to the NYC Haitian community. All participants were born in Haiti, 18 years old or older, presently living in New York City, had self-reported

familiarity with medicinal plants, and expressed a willingness to be interviewed. Participants were interviewed after obtaining Free, Prior, and Informed Consent (FPIC), which is a hallmark of ethnobotany research (Vandebroek et al. 2025). The City University of New York (CUNY) IRB reviewed and granted permission for our ethnobotanical research study (IRB #2022-0107-Lehman).

The questionnaire included both quantitative and qualitative components to assess plant knowledge related to women's health and consisted of the following three parts: 1) Utilization of medicinal plants; 2) medicinal plants for women's health; 3) background information on participants. The quantitative data from this survey have been published elsewhere (Vardeman, Kennelly, and Vandebroek 2024). In this paper, we synthesize our main findings into four overarching themes and present previously unpublished qualitative responses in the form of direct quotes, making space for participants to express themselves in their own words and offering an *emic* perspective that complements the quantitative data.

Reported plants were collected and vouchered by purchasing plant material in Haitian stores and Haitian street vendors in Little Haiti. Specimens were collected by asking staff if they had plant material available based on the common name. We identified specimens through the existing biocultural collection and botanical reference works at the New York Botanical Garden (NYBG). Specifically, specimens were

compared with relevant herbarium specimens or identified with botanical keys. Specialists were also consulted as needed for identification. Voucher specimens were deposited at the William & Lynda Steere Herbarium and contributed the first Haitian samples to the biocultural collection. These specimens are digitally available through the C. V. Starr Virtual Herbarium. Scientific plant names and geographic distribution followed the Catalogue of Life, and plant family names followed APG IV.

Focus groups and creation of outreach materials

After completing the ethnobotanical survey and conducting the initial data analysis, we facilitated a series of approximately 15 focus groups with HAUP clients, the preferred term at Haitian Americans United for Progress (HAUP). These sessions took place during English for Speakers of Other Languages (ESOL) classes held weekly or twice weekly in Fall 2023. The focus groups involved both conversational and PowerPoint-guided presentations of the ethnobotanical findings. Many HAUP staff and community members had previously participated in, or helped facilitate, the survey during Fall 2022; however, an estimated 20 male clients who had not been part of the original data collection also contributed to the focus group discussions.

Initial sessions focused on presenting the main findings from the survey, followed by group discussions among HAUP staff, the first author, and community members, to identify preferred types of outreach materials (e.g., books, community events, informational resources)

and relevant content (e.g., plant uses, recipes). Subsequent sessions explored the top-reported plants in greater detail, including their uses and preparation methods. Participants provided additional knowledge about each plant, including alternative uses, preparation techniques, and related cultural practices. These sessions filled the gaps in preparation methods and alternative uses that were not discussed during the initial survey.

One-on-one co-creation sessions were also encouraged for individuals with a particular interest in the project. All outreach materials were developed collaboratively with HAUP community members and staff, and insights from these sessions were incorporated into infographic posters and digital materials. These resources were made available to the HAUP community at their Brooklyn and Queens locations and were created using Canva software.

Results: Key findings from the ethnobotanical survey with Haitian women

Theme 1: “Because I am Haitian”: Cultural continuity through medicinal plant use

Our ethnobotanical survey with Haitian women in NYC found that the use of medicinal plants was widespread both before and after migration to the city. Participants overwhelmingly indicated that using medicinal plants was an essential aspect of Haitian culture. In several interviews, when asked, “Why do you use medicinal plants?” participants responded,

“Because I am Haitian” (e.g., participant 85, 30 years old; participant 76, 37 years old; participant 65, 65 years old). Knowledge of medicinal plants was intergenerational, primarily passed down through female family members, particularly mothers and grandmothers. When asked how they learned about medicinal plants, two participants (participant 76, 37 years old; participant 83, 32 years old) both stated, “because I grew up in Haiti with my grandmother.”

Quantitative results from our survey further showed that the Haitian community has developed a strong network, distinct from other Caribbean communities in NYC, that makes medicinal plants from Haiti available through local Haitian shop owners and community members. Throughout the interviews, participants expressed a longing for Haiti or the way of life they had experienced there, where they felt more connected to their community and nature. When discussing this topic, participant 84 (60 years old) stated, “All the plants were available in my backyard in Haiti.” Participants commonly cited “growing up in the countryside” as a reason for their knowledge of medicinal plants. However, participants also indicated that using medicinal plants was a way of life in Haiti, especially in the countryside, due to a lack of access to healthcare, as one woman illustrated: “I grew up in the country. We didn’t have doctors” (participant 42, age 54). Throughout the interviews, women reinforced the importance of using medicinal plants sourced from Haiti as a way to preserve their connection to their heritage.

Theme 2: Caring for the womb: Birth, recovery, and cleansing

The top three women’s health conditions that were most frequently treated with medicinal plants were birth and puerperium, vaginal infections, and vaginal cleansing. Almost every participant knew at least one medicinal plant used during birth and the several weeks following birth (puerperium). Throughout the interviews, several mothers indicated the importance of having these plants available from Haiti for their daughters. The knowledge of these plants was not restricted to women. In one interview, a participant who was pregnant indicated that her husband knew which plants she would need after giving birth. Plants used for vaginal infections and vaginal cleansing were interchangeable, as vaginal cleansing was seen as something necessary to prevent vaginal infections. Women reported the importance of vaginal cleansing once a month after menstruation. Plants used for these three conditions are primarily applied topically and therefore come into direct contact with the vagina and the vaginal ecosystem; however, the effects of these plants in the context of women’s health are understudied. Based on these results, we highlighted the need for further laboratory studies of popularly used plants for these conditions in our previous work. For vaginal infections, in particular, substances other than medicinal plants were also used, such as amoxicillin and permanganate. Haitian women indicated that for conditions perceived as “less serious,” including vaginal infections and cleansing, they were more likely to self-medicate with medicinal plants or substances than visit a doctor.

Theme 3: Shared Plants, distinct Practices: Haitian and Dominican women's health traditions in NYC

Our previous work also compared ethnobotanical knowledge of women's health between the Haitian and Dominican communities in NYC. The latter community consisted of 165 survey participants, both genders older than 18, who were born in the Dominican Republic and had moved to NYC (Vandebroek and Balick 2012). The majority of the plants used by both communities were food plants. This result aligns with previous ethnobotanical studies, which have indicated that immigrant communities in urban environments adapt their plant pharmacopeias to include plants that are more easily accessible (Vandebroek and Balick 2014). We found that many women's health conditions treated with medicinal plants were similar between the two communities. However, medicinal plant use for birth and puerperium was more culturally significant in the NYC Haitian community. This likely reflects the relative inaccessibility of maternal healthcare in Haiti compared to the Dominican Republic, as one participant (a 54-year-old female) explained when asked why she knew about medicinal plants: "because I had children in Haiti." While both communities shared many plants for women's health, very few were used for the same conditions. For example, common food plants such as *Syzygium aromaticum* (L.) Merr. & L.M.Perry (jiwòf, cloves; 91 use reports), *Petroselinum crispum* (Mill.) Fuss (pési, parsley; 82 use reports), *Carica*

papaya L. (fèy papay, papaya; 51 use reports) were uniquely reported by Haitian women for women's health compared to the Dominican community. These findings underscore the unique composition of each Caribbean community's pharmacopoeia, which is the culturally specific body of medicinal knowledge and practices through which communities identify, prepare, and use plants for health and wellbeing.

Theme 4: All medicine comes from plants, but the dose makes the medicine

Haitian participants reiterated their strong belief in the efficacy of medicinal plants throughout the interviews. Several participants mentioned how medicinal plants were the way people used to heal themselves: "Back in the day, it was all we needed" (participant 85, 30 years old). Other participants highlighted the role of plants in Haitian culture as a reason they believed in the efficacy of medicinal plants: "It's the culture I grew up in" (participant 58, 22 years old) and "I believe in it because it is how I was raised" (participant 33, 39 years old).

Confidence in medicinal plants also stemmed from the belief that "all medicine comes from plants" (participant 95, 39 years old; participant 88, 56 years old; participant 64, 40 years old; participant 65, 65 years old; participant 35, 67 years old) and that using medicinal plants is "going straight to the source" (participant 65, 65 years old). Participants also listed their faith as a reason for believing in medicinal plants: "God

created a world with all medications" (participant 100, 69 years old) and "[plants are] God's gift to us" (participant 75, 32 years old). However, the safety of medicinal plants was an important concern for many participants. As participant 11 (39 years old) stated when asked whether they believed medicinal plants were dangerous, "Every plant is dangerous if you don't know the dosage." Similarly, participant 90 (28 years old) said, "Plants can cure anything, it's all about the dosage". The emphasis on dosage also emerged during the focus group sessions and directly influenced the focus of the outreach materials.

Translating research into practice through co-creation

Early discussions during focus groups generated a list of information that community members would most like to see on physical outputs for each popular plant medicine from the survey, including plant names in English and Creole, how to identify the plants (including pictures), benefits and risks of plants, the importance of each plant to the Haitian community, and safety precautions. The title of the outreach materials in Creole, "*Fèy se sante fanm*," was generated during group discussions, expressing the idea that medicinal plants (fèy) are central to women's well-being and traditional healing.

Following the focus groups, discussions evolved into co-creation sessions focused on developing content for educational materials. The

goal of these materials was to rematriate/repatriate traditional knowledge from both the initial ethnobotanical survey and information generated by community discussion. Each co-creation session consisted of presenting the results of the ethnobotanical survey for each of the top 25 popularly reported plants, including their common names, reported uses for women's health and other conditions, preparations, and any additional notes from the survey (Figure 1). Both men and women participated in the discussion and demonstrated substantial understanding of medicinal plants related to women's health. Even for plants associated with more sensitive reproductive conditions, such as vaginal infections and cleansing, men participating had input on the applications and preparations of plants that their wives, mothers, and other relatives use. Women participating did not express embarrassment when discussing sensitive topics. This openness was consistent with attitudes towards women's reproductive health observed during the initial survey phase of the research. Even in the presence of male translators or interviewers, women appeared comfortable and unbothered discussing female reproductive health issues. One-on-one sessions with specific HAUP clients who had a particular interest in the project reviewed some of the materials generated.

Asosi

Yesken, Bitter melon

(*Momordica charantia* L.)

Identification

- Palm shaped leaves with toothed margins
- Vine
- Yellow flowers with 5 petals

Availability

- Fruit is available in some grocery stores and markets
- Leaves available at variety stores and *botanicas*

Haitian preparations for women's health



Condition	Plant part	Method of administration	Dosage	Mixture plants	Notes
Birth and after birth	Leaves	Tea	Boil for 15 minutes until it changes color, add salt to taste		
Menstrual Pain	Leaves	Tea			
Vaginal infection	Leaves	Tea or wash			
Pregnancy	Leaves	Tea			Believed to enhance the child's complexion
Vaginal cleansing	Leaves	Wash			
Women's health tonic	Leaves	Tea			

Precautions, interactions, and limits described by the Haitian community

The leaves of this plant are generally considered safe by the Haitian community.

Other medicinal uses described by the Haitian community

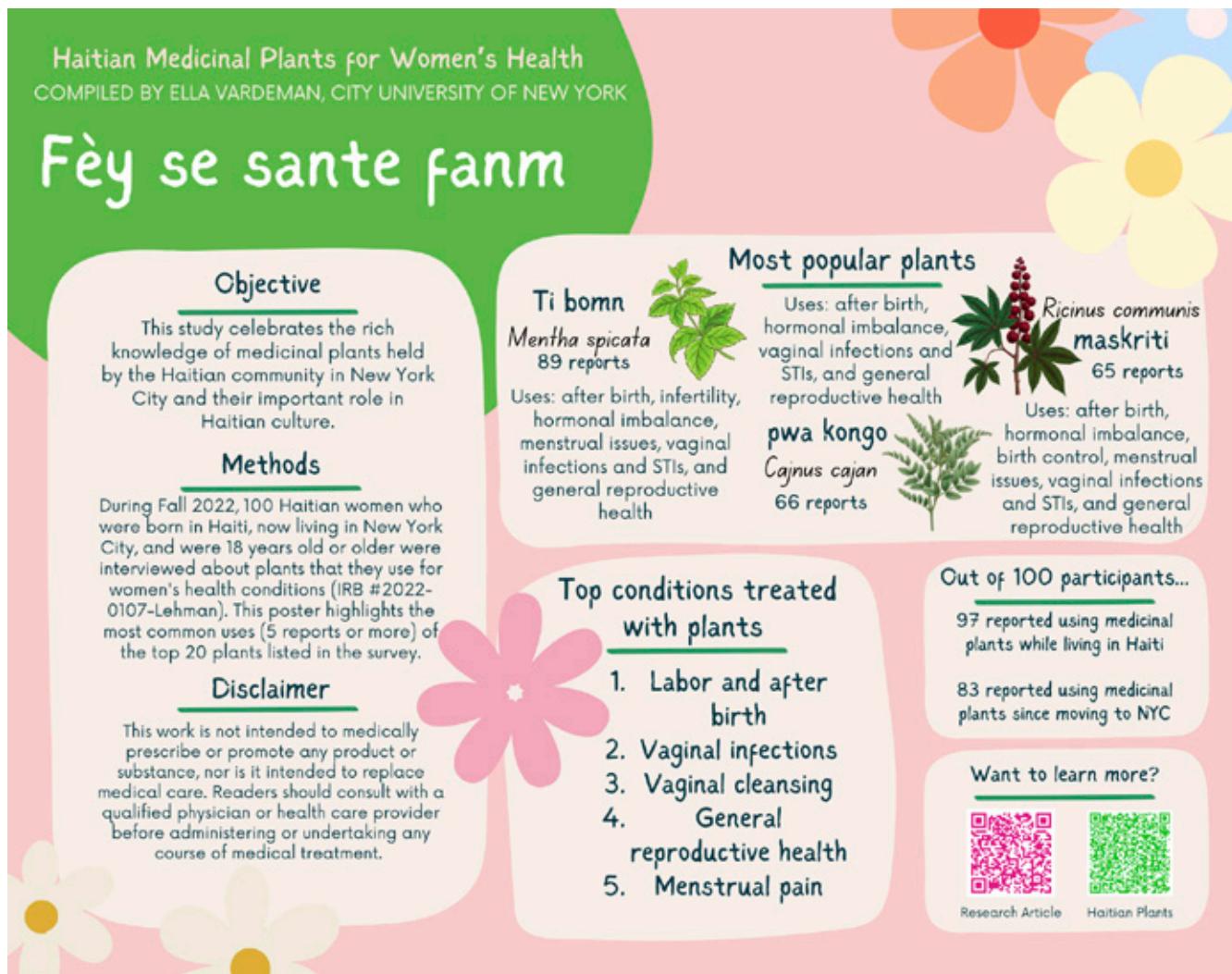
- Fever
- Infections
- Allergic reactions
- To increase appetite

Importance to the Haitian community

This is a plant considered important to health and well-being in the Haitian community.

Figure 4

Example of a slide used during the discussion of *Momordica charantia* (asosi or bitter melon). During the co-creation sessions at HAUP, community members contributed supplementary knowledge (shown in bold), including details on dosage, precautions, interactions, medicinal uses and the plant's broader importance.

**Figure 2**

Informational poster in English available at both HAUP locations.

Prior to the focus group discussions, the goal was to create a physical book or pamphlet that would be available through HAUP, conveying the results of the survey. However, in co-creation with the community, we collectively decided to develop online materials to make the information more widely accessible. As a result, we developed two types of outreach materials. First, we designed

an English-language poster that communicates the primary survey findings (Figure 2) for each of the HAUP locations in Brooklyn and Queens. The poster contains information on the research methodology, a disclaimer regarding medical advice, highlights of survey results, and two QR codes. One QR code links to the Open-Access research article on the ethnobotanical survey,

published in the academic journal *Journal of Ethnopharmacology*, and the other links to an online slide deck published on Canva. The slide deck reiterates survey information from the poster, but also incorporates information on each of the top reported medicinal plants from the focus groups sessions, including their botanical (scientific), Creole, and English names, the number of participants who reported using the plant, each of the women's health issues and

other conditions reported, safety information, and a picture of the plant highlighting distinguishable botanical characteristics. (Figure 3). The slide deck also contains scientific information about the medicinal uses of several of the plants, as well as other safety information from the academic literature. Finally, a table organized by women's health conditions provides a summary of preparation methods from the survey and focus group sessions.



Figure 2

Example of information provided in the online slide deck for two of the top-reported plants from the ethnobotanical survey, *Mentha spicata* L. (Haitian Creole name, ti bomn) and *Cajanus cajan* (L.) Huth. (pwa kongo).

Discussion

Navigating Knowledge Boundaries: Reflections and challenges

Importance of Community in Building Trust

This research was only possible by using a community-based approach. As academically trained ethnobotanists and community outsiders, we initially faced challenges in recruiting participants. It was only after building relationships with organizations such as HAUP that deeper engagement with the community became possible.

Regrettably, the current political climate in the United States is changing these dynamics for foreign-born communities. A community-based ethnobotanical survey with immigrant communities, like the one conducted in 2022, may not be feasible in 2025. Tensions surrounding immigration have tremendously affected the Haitian community in NYC and other places. For example, one of the anticipated outputs from this project, as requested by the community, was to conduct an in-person community event featuring a tasting of medicinal teas for women's health, as well as facilitated discussions and celebrations of Haitian medicinal plants with Haitian women community members. However, after further discussions within the community, we decided that this was not a feasible outreach effort due to fears of gathering in the Haitian community. Researchers continuing to work with vulnerable immigrant groups should hold these important conversations with community members to make informed

decisions that protect and serve the entire community.

Balancing Academic and Traditional Knowledge

One of the bigger challenges in creating meaningful outreach materials was bringing together academic knowledge with traditional knowledge. From focus group discussions, community members indicated that certain plants were unsafe for particular age groups or pregnant women. Discussions on the safety of each plant arose regularly during sessions and reflected the importance of the dosage previously mentioned in interviews. However, the safety of several of the top-reported plants, which have evidence of toxicity in the academic literature, was not discussed in the focus group sessions. For example, castor bean, the species known by the Haitian community as *maskriti* (*Ricinus communis* L.) was a top-reported plant for women's health and holds great significance in Haitian and broader Caribbean culture, but is known to be toxic (Abomughaid et al., 2024). Neither during research interviews nor focus groups did any safety concerns arise regarding the use of this plant, despite what is known in the scientific literature. While most of the information generated for the outreach materials was either generated or requested during community discussions, we ultimately decided to include warnings and safety information for *Ricinus communis*. We followed the same approach for any other top-reported plants that had safety concerns in the scientific literature, with the goal of providing information relevant to traditional knowledge, allowing community members to make informed

choices about their health—whether they followed standard biomedical recommendations, cultural knowledge, or a combination of both.

Vaginal cleansing was one of the top three women's health conditions reported during the ethnobotanical survey. Many of the same plants and topical preparations, such as washes, are used to treat vaginal infections and STIs. However, public health data from the Haitian community in Miami indicates that using these herbs intravaginally can contribute to higher rates of cervical cancer and other reproductive infections (Menard et al., 2010; Seay et al., 2017). As mentioned previously, there is limited scientific information on the specific effects of these plants when used as vaginal washes (Andel van, Boer de, and Towns 2015; Vardeman & Vandebroek 2022). In order to balance the cultural importance of vaginal cleansing for hygiene and preventative healthcare in the Haitian community with adverse effects, we chose to omit directly listing any plants or preparations for vaginal cleaning in the outreach materials.

Abortion was also one of the top-reported women's health conditions during the survey. While many women interviewed had no problem discussing these plants, other women were hesitant to list any plants for the condition—particularly during interviews conducted at community churches. Community members voiced this concern during the focus group sessions and ultimately requested that we omit plants used for abortion as well.

Another challenge was correctly identifying botanical voucher specimens for plants used by the Haitian community for women's health.

Specimens were purchased by visiting Haitian vendors and requesting plants by their Haitian Creole common names. Many of the specimens available in commerce were dried and/or contained only one type of plant tissue (i.e., only leaves or only roots). Almost all specimens were sterile (without reproductive parts), which significantly increases the difficulty in identification (Salick & Solomon 2014). The biocultural herbarium and reference collection at NYBG contained many other medicinal plants that other Caribbean communities in NYC use. This collection was an invaluable reference in identifying Haitian medicinal plants. For more difficult specimens, I.V. is a trained botanist and specialist on Caribbean plants and was able to make identifications. Research groups aiming to undertake translational ethnobotanical research should assemble a multidisciplinary team that includes specialists in botany and ethnobotany.

Funding and Resources for Translational Ethnobotany

Another challenge for this project was adequate funding and resources to produce translational ethnobotany outputs. This research project was funded by the National Institute of Complementary and Integrative Health, the Office of Dietary Supplements at the National Institutes of Health, and the Garden Club of America. Funding for outreach materials, like those we ultimately co-produced with the community, was included as important research outcomes in the initial budgets and applications. However, other constraints limited the types of outreach materials we could produce, including bilingual materials.

Throughout the focus group discussions, the community reiterated the importance of making outreach materials available in both English and Creole. However, our limited language skills, funding, and time hindered our ability to complete the translation. During the ethnobotanical survey, we had funding to pay translators who assisted with Haitian Creole interviews. However, these interviews were verbal. Many translators who are fluent in speaking Haitian Creole are not necessarily fluent in writing Haitian Creole. It would require a significant amount of time and funding to support someone in fully translating all the materials into Creole with the level of detail required. Currently, we do not have all the materials available in Creole. In future translational ethnobotanical projects, we plan to make this a priority from the outset.

Conclusion: A model for empowerment

This case study, including both its research and outreach components, offers a model for translational ethnobotany. Translational ethnobotany is an approach that extends beyond documenting plant use from an academic perspective to actively transforming ethnobotanical knowledge into culturally meaningful and accessible materials that directly benefit the source communities from which the knowledge originates. This includes having Haitian co-authors on academic publications. With this work, we moved from classical ethnobotanical scholarship to creating usable tools with and for community members. Our experiences in research and outreach highlight the importance of community-based ethnobotany, both as a practical starting point for

ethnobotanical projects and in making decisions regarding research and outputs that benefit the community. In the Haitian community, community centers such as HAUP and Haitian churches played a central role in this project. There was no single person or leader making decisions about what was best for the community. Instead, we adopted an approach that incorporated and involved as many community members as possible to inform choices for the community.

This research project focused on women's health, with Haitian women at the center of disseminating traditional knowledge within the Haitian diaspora community in NYC. Future research efforts should acknowledge both diasporic and traditional knowledge systems, with a particular focus on the roles of women in sustaining them in urban settings.

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