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## The Impact of Breast Cancer and Culture on Mental and Behavioral Health in the Cayman Islands: A Qualitative Study

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## ABSTRACT

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**Background:** Outcomes of breast cancer are affected by ethnicity, age, socioeconomic status, religious affiliation, medical preferences and more. The purpose of this study was to examine the breast cancer experience through the lens of the Health Belief Model to uncover support successes, failures, differences in care, and its connection to behavioral and mental health in the diverse population of the Cayman Islands.

**Methods:** Twenty-five participants volunteered to engage in semi-structured interviews and qualified for this qualitative phenomenological study with a breast cancer diagnosis and treatment provided by the Cayman Islands healthcare networks. The interview questions informed the targeted research questions, and the resultant data was examined for meaningful thematic units that encompassed the breast cancer experience in the Cayman Islands.

**Results:** The correlation between cultural identity and behavioral and mental health was evident in diagnosis and treatment. Participant behavior and action was influenced by the perceived threat of breast cancer, self-efficacy, belief in ability to face the challenges, and trust in treatment protocols and professionals. The results of this study emphasized the need for individualized, culturally sensitive care across age, socioeconomic status, ethnicity, and religion.

**Conclusion:** Significant concerns were identified in the need to support breast cancer thrivers in survivorship, managing expectations of self and others, finding meaning in individual experiences, supporting behavioral health changes, managing and understanding the emotional and psychological experiences in breast cancer, and continuing efforts to support all segments of any population in the areas of prevention and early identification.

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### INTRODUCTION

Few breast cancer studies have been conducted in the Caribbean region and even less so in the Cayman Islands. Trends in other parts of the world demonstrate breast cancer as the second most lethal cancer affecting women in the United States. Women

face a 1 in 8 chance of being diagnosed<sup>1</sup>, with discrepancies showing a higher number of African American women will lose their battle with breast cancer each year.<sup>2</sup> These women face a 42% higher mortality rate than their white counterparts, due to later diagnosed and more aggressive cancers, known to respond less favorably to treatment.<sup>3</sup> Younger women are more likely to be diagnosed late as compared to other age groups, potentially leading to a higher mortality rate with more Black women falling into this category along with rising incidence rates noted for Asian or Pacific Islander and White women

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in the 20–44 year range. The combination of black ethnicity and increased likelihood of aggressive and hard to treat cancers creates the highest mortality rate for these women under the age of 40.<sup>3</sup>

Cultural identity includes socioeconomic status (SES), education, geographical location, employment status, and social network.<sup>4</sup> A diminished SES contributes to increased mortality rates due to inadequate or non-existent health insurance, inaccessibility to expert or adequate medical care, the small number of specialists, minimized access to doctors, and lack of funding for screening and education promotions.<sup>4</sup> Decreased numbers of lymph node biopsies, lesser access to radiation, failure to complete follow up surgeries, and disrupted chemotherapy protocols are more prevalent in women of lower SES status.<sup>5</sup> Sociocultural factors have been linked to psychological health in illness, and barriers to adequate and efficient access to care can precipitate a decline in mental health across cultural subsets.<sup>6</sup> Differences in emotional expression may impede awareness of and willingness to access additional mental and emotional health supports.<sup>7</sup>

Geographically, the Cayman Islands are located in the western Caribbean Sea with a current population of 69,914 comprised of Caymanians (53%) and over 130 other nationalities, 75% of which come from Jamaica, the Philippines, the United Kingdom, India, Canada, and the United States.<sup>8</sup> Few breast cancer studies have been conducted across the Caribbean, but trends include comparable high incidence and mortality rates with differences noted in the age of diagnosis between countries.<sup>9</sup> Cayman shares many familial and cultural ties with its neighbor Jamaica, where breast cancer is the leading cause of cancer-related deaths among women and breast cancer mortality rates are on the rise in direct contrast with decreasing mortality rates in countries such as the United States.<sup>10</sup> The Cayman Islands with its small population represents a wide range of cultural identities but the influence of diversity on the breast cancer experience remains unknown.

The breast cancer experience was defined as awareness of screening and early detection, diagnostic and treatment access and compliance, and availability of and willingness to seek out personal and professional support, all with consideration of the influence of economic and immigration status on access to care. Due to the limited number of breast cancer studies conducted in the Caribbean<sup>9</sup>, the purpose of this study was to examine discrepancies in the breast cancer experience in the Cayman Islands, a community with vast differences in ethnicity, income, socioeconomic class, and religious affiliations. Special attention was placed on potential correlation between culture and psychological health for those

living with breast cancer in the Cayman Islands. The expectation of this research queried unmet needs in the breast cancer experience for residents of this country.

## METHODS

This study was informed by the theoretical framework based on Rosenstock's Health Belief Model (HBM), a value-expectancy theory placing value on both expected outcomes and the actions needed to achieve them.<sup>11</sup> When applied to health behavior, it is an individual's desire to avoid illness or regain health paired with the belief in the efficacy of actions serving to prevent or eradicate illness.

### *Design*

This research used a qualitative phenomenological approach to examine a lived experience and the psychological connection to health and well-being through the collection of data analyzed for emergent themes in response to selected research questions.<sup>12</sup> Qualitative research allowed for the discovery of successful practices and the barriers to meet and manage the challenges of breast cancer from diagnosis to treatment. The goal was to describe the meaning of the experience both in terms of what and how it was experienced to inform a greater understanding of breast cancer in the Cayman Islands.<sup>13</sup>

### *Participants*

Participants of varying ages, socioeconomic statuses, and religions affiliations were chosen using convenience sampling for women that have accessed or are currently accessing support through the Breast Cancer Foundation (BCF) – Cayman Islands. Efforts were targeted at obtaining enough participants for the purpose of increasing sample size to achieve saturation of the data collected.<sup>14</sup> Saturation was achieved when interviews no longer provided new information for the research questions of the study. Some participants of Caribbean and Filipina ethnicity were diagnosed with Stage 4 and one participant with triple negative breast cancer of unknown stage. It was difficult to ascertain trends in the type of breast cancer diagnosed as not all participants remembered the specifics of their diagnosis. The study sample reflected the heterogeneity of the country's population.

### *Procedure/Data Collection*

The instrumentation included semi-structured interviews conducted in confidential, one-on-one meetings between the participant and the researcher. This style of interview allowed for the use of natural conversation and follow-up questions beyond the



original interview questions to capture the lived experience of a specific population.<sup>15</sup> The selection of the participants was randomized within the subgroups to minimize researcher bias associated with convenience sampling.<sup>15</sup> Pre-determined interview questions were chosen to inform the following research questions: (1) before diagnosis, how did the participant's culture influence the experience of breast cancer and their corresponding health behaviors; (2) what, if any, were the participant's perceived benefits of treatment; (3) what, if any, were the participant barriers or negative consequences of treatment; (4) what cultural influences prompted participant decision making and action throughout their breast cancer experience; and (5) what was the impact of culture and breast cancer on behavioral and mental health throughout the experience?

The reliability and validity of the study were addressed across procedures through efforts to eliminate bias or prejudgements based on other participant interviews or previous literary research. Bracketing was used to focus attention solely on the interview process of asking questions and obtaining answers.<sup>16</sup> A person-centered approach was used to ensure participant comfort and understanding throughout the interview process. Informed consent included participant agreement for interview recording to ensure accurate depiction of the data and for use in later analysis. Confidentiality measures and efforts used to protect the data collected were transparent and explained to the client. The interviews were continued to saturation to ensure adequate data collection to fully understand the phenomenon of the breast cancer experience in the Cayman Islands.<sup>17</sup>

Each interview was coded to maintain participant privacy and anonymity using a system with P1 representing participant one, P2 representing participant two, and continuing for all participants. All electronic information is stored on a password protected USB and stored in a locked cabinet. The Ombudsman of the Cayman Islands<sup>18</sup>, enforces the Data Protection Act which does not set specific time limits on different types of data and as such, HIPAA guidelines indicating secure storage for six years post study completion will be adhered to with all data destroyed after that time. Institutional Review Board (IRB) approval was obtained before the study was conducted to ensure all principles of qualitative research were adhered to and upheld.

#### *Data Analysis*

Data analysis began with transcription of the interviews using field notes and recorded sessions to ensure all content attained in person was transcribed

verbatim to preserve the integrity of the information shared by the participants. Moustakas' modification of the van Kaam method of analysis was used to explore and understand the breast cancer experience for those living in the Cayman Islands.<sup>18</sup> Horizontalization was used to compile a list of all statements expressing participant experience which were then grouped, viewed, and analyzed into meaningful units or themes and categorized as textural or structural statements depicting exactly what was experienced and how it was experienced.<sup>12,16,27</sup> A codebook was developed resulting in 18 codes and used to organize content and quotes from the interviews. The structural and textural descriptions were synthesized to make a composite description to capture the meaning of the experience as shared by the participants.<sup>18</sup>

## **RESULTS**

The target study population of 25 participants included age at diagnosis falling between 31-76 years. The breakdown of ages for this sample was categorized in the year ranges 30-39 (n=1, 4%), 40-49 (n=13, 52%), 50-59 (n=7, 28%), 60-69 (n=3, 12%), and 70-79 (n=1, 4%). The sample included women from six different geographical regions and the breakdown in culture was recorded as 16 white participants (British, North American, South African) and 9 non-white participants (Caribbean, Latina, Filipina). It is important to note that most of the participants (n=23) started their lives as expatriates with residency ranging from 1-30+ years and the remaining participants (n=2) self-identified as Caymanian. Most women in this participant group were diagnosed with Stage 1 or 2 breast cancer. Occupations were varied with more than half (n=16, 64%) of the participants employed in the corporate/legal domain or in a professional capacity including teachers, police officers, therapists, and engineers. The remaining participants identified employment in the areas of administrative support (n=5, 20%), domestic helper/nanny (n=1, 4%), missionary work (n=1, 4%), and the remaining two participants as retired (8%). Religious affiliation was declared for a wide variety of religions including Catholic, Anglican/Church of England, Pentecostal/Church of God, Baptist, Protestant, Hinduism, Presbyterian, along with more general alliances including followers of Christianity, spirituality, non-denominational religion, or declarations of no religion at all.

This study was based on carefully chosen research questions to document the lived experience of breast cancer in the Cayman Islands across pre-diagnostic health behaviors, diagnosis and treatment, the influence of culture on decision-making and experience, and the combined relationship of breast



cancer and culture with behavioral and mental health. Specific cultural influences were aligned with aspects of identity to include age, ethnicity, socioeconomic status, and religion. Data obtained from the participants was analyzed using Moustakas' modification of the van Kaam method of analysis for themes and recorded under each research question as indicated in the following sections.

#### *Prediagnostic Health Behaviors*

Proactive behavioral health action in terms of monitoring and modifying diet, exercise, alcohol consumption, and other healthful behaviors were not commonly adhered to in order to preserve breast health pre diagnosis, but as feelings of susceptibility increased, a greater dedication to enhanced breast health awareness was observed. Almost all participants shared a commitment to some form of preventative awareness and screening actions through a combination of self-checks, doctor checks, and mammograms and/or ultrasounds.

The participants experienced a sense of fear and susceptibility cueing them to action when sudden changes in breast health were observed, "I noticed the girls were getting a little bigger" (P17), with "the discovery of a lump just purely in the shower one morning" (P19) or when noting physical "pain in [the] rib cage and...some kind of unusual symptoms and just a bad feeling" (P24). Breast cancer was also discovered while participating in cosmetic pursuits such as "implants [requiring] a mammogram and that's where they found it" (P02). These changes resulted in immediate action with doctor appointments and subsequent diagnostic measures.

#### *Perceived Benefit of Treatment*

In terms of treatment benefits in Cayman, most participants celebrated access to expert and cutting edge medical care and treatment protocols, "I mean I was one of the first people to ever get Perjeta ... and before that most women diagnosed with HER2 positive breast cancer died" (P25). A general appreciation for timely access to care was reported, along with the opportunity to make choices, "I requested that I be sent [overseas]...and that moved very quickly because I was diagnosed on the 20th of October and on the 6th of November I was [in Florida]" (P12). Many participants felt medical treatment was individually tailored and the experience of being heard and valued in terms of personalized care promoted follow-up with medical advice and treatment protocols, "[for] the chemo treatment I was in the room by myself, I wasn't with a whole bunch of people it was just me [a volunteer and the nurse] which I loved" (P23). Positive treatment

experiences promoted confidence and a greater sense of self-efficacy for facing future health challenges.

A widely held appreciation was shared for the available support networks on the island at the friend, family, and organizational level. In a large expatriate population, strength was found from chosen island families offering moral, spiritual, financial, and day to day supports, "most of my family don't live here, so ... that was a hard piece, but I have close-knit friends and if you're not from here, your friends become family" (P13). Connectivity across subpopulations in Cayman negated feelings of isolation and enhanced feelings of self-efficacy to meet the challenges from diagnosis into unexpected benefits, "the biggest take away I've had from all of this is the women that I have met that I would have never ever crossed paths with at all in my usual daily life" (P06).

The Cayman Islands are uniquely privileged to be a wealthy country in the Caribbean, and as such it has an active community when it comes to fundraising and supporting nonprofit and charity work. The Cayman Islands Cancer Society provides financial support for treatments and associated expenses for those unable to meet cancer costs not covered by insurance companies, "[they] helped me with the Onco Dx and the genetic testing to see how much benefit [I] would get from chemo" (P07). The Breast Cancer Foundation was created from this benevolence and has grown to become an invaluable part of the community, "the physio and the acupuncture and that were covered. That had benefit for the whole family. If money was being spent on me...the kids would be missing out. They've benefited from that as well" (P19). Participants repeatedly shared appreciation for the Breast Cancer Foundation and their Wellness Program that assists members in addressing the adverse effects and challenges of treatment. The Wellness Program covers medical massage, nutrition support, cold cap therapy for the prevention of hair loss, wig and prosthetic supports, counselling, and numerous other spirit boosting interventions to help survivors find the strength and ability to keep fighting, "I cannot praise the ladies at the BCF enough because they always make us feel like queens whenever we go" (P05).

#### *Barriers and Negative Consequences of Treatment*

More than half of the participants experienced negative consequences and treatment effects due to medications and surgical complications. Participant 18 described what it is like to wake up each morning.

"So, I've had the surgery and all that so I'm thinking that's great. I wake up in the morning in absolutely excruciating pain and it's so bad you



can't feel your hands, or your toes and I just reach over for the tablet and take a couple of Tylenol straight away and within half an hour I can get up, I can come down the stairs and get my breakfast and then take the next 8 tablets.”

An overwhelming concern was reported around the negative effects of long-term endocrine or hormone therapy, lasting up to 10 years post treatment, “It’s awful...it’s horrible, the joint pain, the tiredness and fatigue, the insomnia, the hot flashes” (P19). The participants were unprepared for the life altering influence of medication with experiences of “constant pain” (P22), or not being able to “walk [or] eat... [limited to] baby rice at one point during TCHP” (P16).

Negative surgical experiences ranged from the dismissal of participant preference to complications occurring during surgery, “[the doctor] cut an artery so what happened was it bled so they couldn't see where they were supposed to be going for the lump and they were digging in” (P09) or immediately after, “I was allergic to the latex, and I develop blisters ... and it was so painful, and it was burning [and then] when they did take the dressing off, the drain pulled out” (P20). And for some, unexpectedly after a significant time had passed due to implant illness or complications.

“You know I might go down with arthritis when I'm 60 but getting the implants at 42 gave my body a boost. I do believe now that the bowel problems were connected. I do believe that my body just started to attack its organs and the bowel was one of them and my tendons and my joints. There was a time I could hardly stay awake past 8 o'clock and I would be dreading the evening because I would want the kids to be in bed because I wanted to go to bed myself. I think that was the worst, that was the biggest difference when I had the implants taken out and I woke up and I came home, and I'm not joking when I say it was immediate. (P24)”

In some cases, treatment choices were more limited due to the lack of radiation treatment on the island and when faced with a choice of lumpectomy and follow-up radiation in the US, participants chose mastectomy as they did not feel they had the resiliency or resources to be away from work or family for extended periods of time. Other treatment challenges included delays and increased stress and anxiety due to latent insurance approvals, “I was sitting in the chemo chair prepped and they were giving me the pre chemo stuff, and I still hadn't had my chemo medicine and they were saying that they were waiting on approval still from my insurance” (P23). The timing of this study revealed the additional stress of delays and/or changes in medical

planning resulting from limited access to travel or appointments due to the COVID-19 pandemic. Some participants faced altered medical care with their oncologists, “after my first chemo treatment ... everything [was] telemedicine because of COVID ... he couldn't come to Cayman” (P10), and delays in diagnosis were reported where it “took nine months to diagnose” (P18). Characteristics of this Caribbean region, care and diagnostic delays were also attributed to major weather events in the form of hurricanes.

Additional denials blocked access to double mastectomy to proactively address a personal and prolific family history of breast cancer, causing emotional distress due to “a very male dominant point of view you know kind of like – no – I am not doing that” (P04). Loss of previous self, body image, and aspects of post-traumatic stress perpetuated a further array of emotional distress during the treatment experience. Diminished quality of life was attributed to the treatment effects of insomnia, debilitating fatigue, and persistent cognitive challenges in the areas of attention difficulties, memory impairment, and diminished executive functioning interfering in daily life across work and family responsibilities, “when I first started working full time again ...I would forget the word I needed to say which was devastating because I'd always been working so quickly and I could do two, three things at once” (P06).

#### *Cultural Influence on the Breast Cancer Experience*

In addition to ethnicity and nationality, the participants cultural identity included the constructs of age, socioeconomic status, and religion. Contrary to the findings in other countries, there were no findings in this study of discrepancy or disparity in access to care across all identity constructs examined in Cayman. The Cayman Islands do not have a mandatory cancer registry, making it difficult to track demographic information and an accurate breast cancer mortality rate, so it remains unknown if this disparity exists in Cayman for women not involved in this study. No delays in accessing treatment after diagnosis were reported by any of the ethnic groups in this study.

Belief systems varied across cultural groups, but it did not impede or become a barrier in any way to accessing timely or effective treatment. The participants from the Caribbean and Philippines relied more on religion by “[asking] God to direct the surgeon's hands” (P08) and trusting “that our time is in the Lord's hands and the Lord has the right to give us life, and he has the right to decide” (P01). Conversely, participant 15 felt abandoned and “shut



[herself] off from God. I prayed but I didn't put anything into it, I just gave it lip service...well, I guess I was angry". North American and South African participants reported more spiritual guidance outside of structured religion, expressing belief in other realms, "I think it was the angels that made me feel the lump" (P06). British participants reportedly relied more on education and science to guide them through their breast cancer experience, "I'm very agnostic about it all...not serious God will get me through this type of thing. Throw a science book at me" (P20). Whether beliefs were based on God or science, it was important for women to have faith in the idea that their care was supported, not only by their medical team but also by faith in treatment to prevail over the threat of the disease.

For some cultures, being a wife and a mother, carried the expectation to look after family before self. It was common for women to express how difficult it was for them to switch roles from carer to being cared for, whether they were married or single, mothers or not. The inability to put self first, even when it came to significant and potentially fatal health challenges was extreme, to the point where illness was ignored until it resulted in an open wound and lost nipple. Participant 21 was diagnosed only when she ended up in the hospital with "fluid in her lungs... [she] put only the tissue in [her] bra...and ... took the antibiotic from the Philippines", sacrificing herself to avoid causing financial strain to her family. Age was a construct resulting in different themes across the study, more so for the ages at either end of the spectrum. Participants at the younger end of the spectrum not only had to make decisions with their young families in mind but also struggled to be listened to by their doctors, with concerns reported to be ignored or dismissed, "he did say he didn't need to see me until around August because there was nothing wrong with me...but by August I would have died" (P17). Participant 25, in her family planning stage of life encouraged and cautioned others "to plan ahead a little more, but it's really hard to when you're in that time because you've got to get the surgery and get the treatments and all that you don't think about fertility". The participants at the older end of this study were noted to consistently forego the additional stress and challenges of reconstruction surgeries, citing it as unnecessary at their age and stage of life, "when they asked me if I wanted reconstruction, and I said no maybe if I was younger" (P08). They faced immense challenges returning to work nearing the end of their career, needing pay to cover accrued medical debt but unable to afford increased insurance premiums passed on to them from their employers.

"So, in January they took another \$850 a month out of my pay so I'm now paying almost

\$1,400 a month, and it's like you people are doing this illegally and ended up arguing with him about it and I've asked our in-house counsel and he said if you've heard of constructive dismissal? Which is basically if you don't agree with it, you're out on your backside. And I've looked for another job but at my age who's going to hire me? (P15)"

The participants from the Caribbean reported having families and friends with a fatalistic view of cancer, "panicking – oh my God you have to take off your breasts, kind of thing because if you don't then you're going to die" (P10). They are part of a collective community encouraging those with breast cancer to treat themselves using cultural and naturalistic approaches, "to take inflammation out of your body...just the contact with the Earth" (P01). Opinions were reported to be overwhelming at times, "the information coming in from everyone you need to try this, oh you need to go holistic, you need to do just herbs" (P17). There were interviewees who chose to pursue individual decision making and follow more traditional medical recommendations, "I had to say to them sometimes well you know that is not going to cure cancer" (P10). Expatriate participants carried influences from their home country and faced a different kind of pressure from family. Some were campaigned by family members "to leave Cayman...get off the island... [they] wanted me to come home, but to me Cayman is home" (P07). Their families held strong beliefs adequate care could only be received at home, but participants reported an awareness and appreciation for the level of expert care that could be accessed in a timelier manner by staying in Cayman. Differences in care between countries was emphasized by those who realized their breast cancer type may have been fatal if treated in their country of origin which lacked the advanced level of care and access to the newest medications, "It's different, a big different. If I'm in the Philippines, I'm going to die early" (P21).

The independent lifestyle of an expat, prevalent in Cayman, was showcased by participants who withheld the news of their diagnosis from their family until they could report that everything was ok, "I have to let them feel that I'm okay so that they don't worry because the helplessness that they feel is some sort of suffering for them" (P22). Other participants reported appreciation for travel restrictions during COVID, understanding they would not have had the strength or capacity to host visiting family as they faced treatment complications. Some knew their families well and were not ready or willing to face a change in role from independent woman to "become the patient, the child, the sick one, and I wasn't prepared to take that role on" (P07).



### *Connection to Behavioral and Mental Health*

Many participants made changes in their behavioral health following their breast cancer experience, and most were able to share the how this was connected to their mental health. There were a few participants, whether due to cultural tendencies or timing, who were not yet ready or able to explore the emotional and mental aspect of their breast cancer experience. They found ways to be with “local friends because they would not ask me, they knew...from the beginning when I'm here I don't want to talk about it so that was my getaway” (P23). Behavioral health changes mitigated worry of cancer recurrence. Diet changes were widely reported in making healthier food choices and incorporating nutrient laden juices along with choices to “cut alcohol out ... cut back on meat [and be a] little bit more plant based” (P22). Others found themselves in the contemplation stage of change or without the resources to pursue change, “I'm not doing nothing because I'm tired. I am not focusing at work and that's making me feel worse and I'm not getting anything done and...I'm doing what is the bare minimum that needs to be done” (P09). Others sought to feel more of a sense of control over environment by researching products and foods used in the home, and proactively eliminating anything known to be carcinogenic to promote greater health for self and families.

Thematic reporting of healthful behaviors included a renewed commitment to recommended screenings or doctor appointments along with efforts to combat stress and set boundaries, “I'm not taking calls...before 9:30 because... I take the dog on a walk up to the water and get to the ocean and it's really very quiet and I just stand there for a while...and just breathe” (P19). Better work-life balance takes on even more value in the Cayman Islands as expectations for employees are often reported to be elevated and to come at a higher cost for families if not met as they may be faced with leaving the country. If jobs are not maintained, work permits may be cancelled or not renewed, resulting in an immediate change in immigration status and ability to stay.

There was a noted absence of support seeking to manage the mental health aspect of breast cancer despite discomforts and difficulties in emotional responses. Anxiety caused by anticipatory worries during treatment, fear of recurrence, and overwhelming concern with how to resurrect their precancer self were common experiences as reported by Participant 15, “Every time you have an ache or pain... and go to Miami every 6 months, you think what if they miss it... and it suddenly like you have two weeks to live?”.

The participants reported being caught off guard when the emotional responses expected during

diagnosis and treatment instead, occurred posttreatment, “once all your treatments finished and you go home, and you realize that you haven't got this blanket of people that are looking after you and supporting you, you may go into a kind of depression” (P06). Breast cancer created loss of hopes, plans, and dreams, as it radically altered plans for family planning, home ownership, and early retirement. Participants with young families carried “mama guilt...that I missed things, and I know it impacted two years of my family...my relationship with my husband is different because I feel different” (P13).

Examination of the transcripts revealed two unexpected themes during the analysis of participant responses, the negative experience of unmet expectations and the importance of meaning-making. The participants shared frustrations and diminished self-worth when they were assessed as failing to meet expectations from self, family, friends, and employers. The commonality across expectations is the belief that the participants should be able to return to their precancer self and function as they had previously. Even when the participants understood that they would not be the same, it did not stop them from experiencing the hurt and grief over the loss of former self, particularly when those around them believe the experience is over, “remember that time when you were sick kind of thing...it's like that you're finished but I'm not” (P19). Participant 06 expressed a strong desire to educate others on the differences between precancer and post-cancer self to help others mitigate their expectations, “explain to them that the person you see coming into your office...that you've got working for you that's gone through cancer, is not the same.” The second emergent theme involved the need to make this experience make sense because without merit or meaning it was too much to bear. There was reported dedication to fundraising, education, and volunteering efforts using their breast cancer experience to help others, putting their efforts into fostering hope or into effecting positive change, “I would love to advocate for IBC [Inflammatory Breast Cancer], I feel that to be my calling somehow to get that message across. It's such a rare cancer” (P16).

### **DISCUSSION**

Implications from this study can be applied to individuals and professionals that work in the breast cancer field, to the medical profession as a whole, and in a wider systemic manner to the Cayman Islands. Using the Health Belief Model, education across communities can support prevention measures through screening for early diagnosis and improving treatment outcomes and it can enhance belief in self



and ability to fight a disease as daunting as cancer. The Cayman Islands possess incredible diversity in a very small population, and this influenced the study population resulting in subject representation from six geographical locations and 12 countries, reflecting all but one of the seven majority countries currently represented in Cayman. Empowering self-efficacy across cultures might be best addressed by promoting service providers of varying ethnicities so that all populations feel heard, acknowledged, and better able to advocate for self. Individual perceptions shaped by cultural influences and experiences can create targeted and effective treatment outcomes for enhancing breast cancer survivor rates.<sup>19</sup>

As in other countries in the region, the lack of breast cancer studies in the Cayman Islands may be attributed to the absence of consistent tracking and cancer registries. This makes it exceedingly difficult to study the existing needs, successes, failures, and trends to address the social determinants affecting early detection and treatment.<sup>20</sup> Systemically, the implementation of a national cancer registry can assist in not only creating a true reflection of the actual incidence rate of breast cancer in the Cayman Islands, but it will also provide accurate demographic information to tailor support and treatment protocols to the true needs of the population in terms of age, ethnicity, socioeconomic status, and religion.<sup>21</sup> This is especially vital for breast cancer presentations in younger adults and for the rare forms of breast cancer that specialists may not be familiar with. Specific and tailored psychoeducation across cultural communities will promote feelings of competency in rising to meet the challenges faced by all breast cancer patients in the Cayman Islands. Although this study did not find discrepancies<sup>2</sup> in access to care based on culture, it does not mean this does not exist as there is no systemic way to track the specific demographics of those facing breast cancer diagnosis and treatment.

As found in other countries, breast cancer patients in the Cayman Islands would benefit from mental health screening and support immediately after diagnosis for anxiety and depression concerns to support greater participation and treatment adherence.<sup>22</sup> Proactive mental health care was not prevalently reported by the participants of this study and early intervention can serve to mitigate the long-term and negative effects of the stress, anger, depression, anxiety, and fear that many individuals face across their breast cancer experience. Supporting communication between surgeons, specialists, and patients will ensure patient concerns and needs are more likely to be met, and in situations where patient wishes, and physician recommendations are misaligned as a result of cultural differences,

empathic support and education can assist in moving forward with treatment protocols.

The area of survivorship was highlighted as an area of importance by the participants of this study as very few, if any, were prepared for the challenges of survivorship. This study uncovered a common struggle for the participants when managing and failing to meet expectations of self, friends, family, and employers. As almost half of the population are expatriates here on work permits, the demographics skew the majority of participants into the work population and the Cayman Islands is known to have very high standards and expectations of employees to be able to produce employment results. Common experiences included decreased quality of life due to employment discrimination, weaker physical abilities, altered relationships with others, and ongoing feelings of isolation, further impacting healthful behavior change for survivors.<sup>24</sup>

Education for service providers, employers, and the community is needed to enhance awareness of the consequences of cancer treatment. Family members would benefit from education and psychotherapeutic support to create awareness, teach coping strategies, and assist in learning how to best support their breast cancer survivor for managing needs such as chronic pain, lymphedema and the lesser talked about needs for young survivors such as sexuality and fertility supports.<sup>25</sup> In a population where breast cancer is hard to talk about due to religious, ethnic, and generational differences, it becomes easier to stay quiet than it is to openly share concerns. It is vital that cultural awareness and sensitivity extend into survivorship as poor survivorship outcomes can include cancer recurrence and a diminished quality of life.<sup>26</sup>

## CONCLUSION

Breast cancer is an individual experience. There are commonalities in the experience across ethnicity and nationality, age, socioeconomic status, and religious and spiritual beliefs but it is an individual experience. Family, friends, and organizational networks provide support to the breast cancer thriver, but a positive experience comes down to the individuals' belief in themselves and their abilities to face breast cancer. Breast cancer does not discriminate, and its challenges do not end when active treatment is over. The unique diversity of the Cayman Islands population emphasizes the need for individualized support to meet the needs of each breast cancer patient. Ongoing research is needed to meet the cultural needs of the residents of the Cayman Islands in the area of survivorship, emotional and mental health support, enhancing spiritual and religious support, targeted consideration for younger



patients, and for enhanced education and outreach across the entirety of the Cayman Islands community.

### Limitations

This study used convenience sampling which may have served as a barrier to recruiting potential participants that do not speak English as their first language, those that do not use computers and email as a regular part of their daily life, and it may have appealed more to participants attracted to academia and research-based pursuits. This type of participant selection may have limited participant selection and created a bias in accessing only those breast cancer thrivers that accessed support of the Breast Cancer Foundation (BCF), while limiting access to those not using the services of BCF. The ethnicity of the researcher may have impacted recruitment and information shared in the interview process due to language and cultural differences between herself and participants. Cultural differences between the researcher and participants may also have a limiting effect on data analysis and interpretation in fully understanding the intent of the information shared in interviews. This may be addressed in further studies through the use of a diverse team of researchers allowing for cultural sensitivity and the use of first language interviews. The results of this study may not be fully reflective of the wider breast cancer community that exists outside the reach of the Breast

Cancer Foundation and there may be decreased external validity outside of Cayman's borders to the wider Caribbean region as Cayman is unique in its wealth, availability of expert medical care, and population.

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### ETHICAL CONSIDERATIONS

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Institutional Review Board of California Southern University and was approved on 25 January 2022. Informed consent was obtained from all subjects involved in the study.

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### CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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