The Influence of Non-Medical Drivers of Health on Quality of Life Among Hispanic/Latina Breast and Cervical Cancer Survivors

Derek Rodriguez, PhD [1]; Patricia Chalela, DrPH [1]; Ysabel Rose Lew, BS [1]; Natalie Rodriguez, MS[1]; Juan C. Nevarez Ramos, BA[1]; Jacqueline Cardenas, BS[1]; Carla Carmona, BA[1]; Edgar Munoz, MS[1]; Byeong Yeob Choi, PhD[1]; Chen-Pin Wang, PhD[1]; Yanet Manresa, MPH[2]; Madeline Hernandez Krause, MSEd[2]; Dolores Perdomo, PhD[2]; Akina Natori, PhD[2]; Steve Cole, PhD[3]; Frank J. Penedo, PhD[2]; Amelie G. Ramirez, DrPH[1]

[1]UT Health Science Center at San Antonio, Mays Cancer Center, [2]University of Miami, Sylvester Comprehensive Cancer Center, [3]University of California Los Angeles

Abstract

Background: Hispanic/Latina (H/L) women in medically underserved regions such as South Texas face substantial survivorship disparities, including reduced health-related quality of life (QoL) and limited access to supportive care. Although non-medical drivers of health (NMDoH)—such as financial strain and low social support—are known to influence outcomes, few studies have quantitatively examined their combined impact among H/L breast and cervical cancer survivors. **Objective:** To examine associations between NMDoH factors and QoL among H/L breast and cervical cancer survivors in *Avanzando Caminos*, an NCI-funded cohort study exploring social, behavioral, and medical influences on survivorship. **Methods:** Baseline data from 170 H/L women treated for breast or cervical cancer within the past decade were analyzed. NMDoH constructs were derived from the *Avanzando Salud Center* NMDoH Screener, capturing financial hardship, transportation needs, physical activity, healthcare access, and social support. QoL was assessed using site-specific Functional Assessment of Cancer Therapy (FACT) instruments—FACT-B for breast and FACT-Cx for cervical survivors. Multivariable linear regressions estimated associations between NMDoH factors and QoL, adjusting for sociodemographic and clinical covariates. **Results:** Financial hardship significantly predicted lower QoL for both cancer types. Among cervical cancer survivors, higher comorbidity burden further reduced QoL. Vigorous exercise improved QoL among breast cancer survivors. **Conclusions:** Unmet NMDoH needs—particularly financial strain and comorbidities—adversely affect QoL among H/L cancer survivors. Incorporating systematic NMDoH screening and culturally tailored interventions may enhance survivorship care and long-term well-being.

Introduction

Cancer is one of the leading causes of death in the US and disproportionately affects Hispanic/Latina (H/L) populations, particularly in medically underrepresented regions such as South Texas (STX) (1). Among H/L women, breast and cervical cancers are the most common diagnoses, yet these populations experience significant health inconsistencies in incidence, mortality, and survivorship outcomes compared to non-Hispanic White counterparts (2, 3). In STX, these inconsistencies are magnified by intersecting cultural, structural, and socioeconomic barriers that limit access to timely and comprehensive care. H/L breast and cervical cancer survivors often report poorer health-related quality of life (QoL), higher symptom burden, and greater unmet supportive care needs. While breast cancer treatment may include long-term hormonal therapy and reconstructive surgery, cervical cancer treatment often involves radiation and surgery with potential reproductive consequences—leading to distinct survivorship experiences across physical, emotional, and other domains, including body image, fertility, and emotional well-being (2). Research underscores the importance of non-medical drivers of health (NMDoH)—such as financial hardship, social isolation, transportation barriers, food insecurity, and housing instability—as critical drivers of cancer outcomes and survivorship (**Figure 1A**) (4). For instance, financial strain is linked to reduced treatment adherence and worse mental health; lack of transportation delays follow-up care; and strong social support buffers against psychological distress and improve functioning (5). These NMDoH factors are particularly salient in STX, where a high proportion of the population faces limited health insurance coverage, language barriers, and other access-related challenges (**Figure 1B**). Despite growing recognition of these factors, few studies have quantitatively examined how multiple NMDoH collectively influence HRQoL among Latina breast and cervical cancer survivors in border regions like STX—areas with distinct cultural and health system dynamics. To address this gap, this study investigates associations between NMDoH factors and QoL outcomes among participants enrolled in *Avanzando Caminos: Leading Pathways*, an NCI-funded prospective cohort study investigating the behavioral, psychological, and biological factors that influence H/L adult cancer survivorship. This study aims to examine how NMDoH influence QoL among H/L breast and cervical cancer survivors in STX.

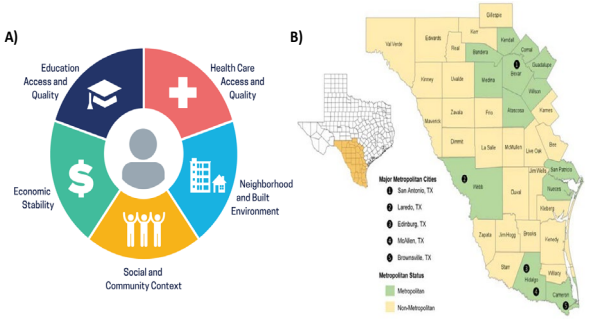
Methods and Materials

This cross-sectional analysis utilized baseline data from the *Avanzando Caminos* study. The analytic sample included 170 Hispanic/Latina women, comprising 131 breast cancer survivors and 39 cervical cancer survivors. Data were collected through surveys administered in either English or Spanish by culturally concordant bilingual research staff. The surveys collected data on sociodemographic and clinical characteristics, along with key NMDoH, including financial strain, transportation needs, physical activity (exercise engagement), healthcare access, and social support. These NMDoH factors were assessed using items from the *Avanzando Salud:* Cancer Health Research Center NMDoH Screener (6)—a tool developed to examine NMDoH in STX—and cross-referenced with data from the *Avanzando Caminos* dataset. HRQoL was assessed using the Functional Assessment of Cancer Therapy scales—FACT-B for breast cancer survivors and FACT-Cx for cervical cancer survivors. To examine associations between NMDoH factors and QoL, multivariable linear regression models were conducted. These models adjusted for confounders, including age, number of comorbidities, and body mass index.

Table 1. Inclusion criteria of the Avanzando Caminos study.

18+ years of age	No inpatient psychiatric treatment in last 6 months
Identifies as H/L	No cognitive impairment
Completion of breast or cervical cancer treatment within the last 10 years	No enrollment in other behavioral studies
No evidence of disease or evidence of disease progression (metastatic; stage 4) in > 1 year	Willing to participate in all visits

Figure 1. Illustration of the core non-medical drivers of health that collectively shape health outcomes (A). South Texas, the 38-county catchment area of the *Avanzando Caminos* clinical study (B).



Results

Table 2. Area level factors and health-related characteristics of breast and cervical cancer survivors.

	Breast	Cervix
Sample size	131	39
Financial strain (%)	61 (46.6)	20 (51.3)
Engages in intense sports (%)	15 (11.5)	5 (12.8)
Needed health care but did not receive it (%)	16 (12.2)	9 (23.1)
Lacks reliable social support (%)	41 (31.3)	17 (43.6)
Has health insurance coverage (%)	128 (97.7)	32 (84.2)
Interview conducted in Spanish (%)	35 (26.7)	8 (20.5)
History of myocardial infarction (%)	3 (2.3)	1 (2.6)
History of congestive heart failure (%)	1 (0.8)	0 (0.0)
History of peripheral vascular disease (%)	2 (1.5)	0 (0.0)
History of stroke (%)	6 (4.6)	0 (0.0)
History of chronic obstructive pulmonary disease (%)	18 (13.7)	5 (12.8)
History of diabetes that requires treatment (%)	31 (23.7)	8 (20.5)
History of diabetes with end-organ damage (%)	7 (5.3)	2 (5.1)
History of moderate/severe renal disease (%)	1 (0.8)	0 (0.0)
History of mild liver disease (%)	8 (6.1)	2 (5.1)
History of severe liver disease (%)	2 (1.5)	1 (2.6)
History of peptic ulcer disease (%)	4 (3.1)	1 (2.6)
History of connective tissue disease (%)	26 (19.8)	5 (12.8)
History of hypertension (%)	44 (33.6)	12 (30.8)
Number of comorbidities (mean (SD))	1.17 (1.50)	0.95 (1.12)
Age in years (mean (SD))	55.68 (10.91)	47.41 (10.31)
Body Mass Index (mean (SD))	31.56 (6.18)	33.41 (7.25)

Figure 2. Engaging in physical activity is significantly associated with higher quality of life among breast cancer survivors.

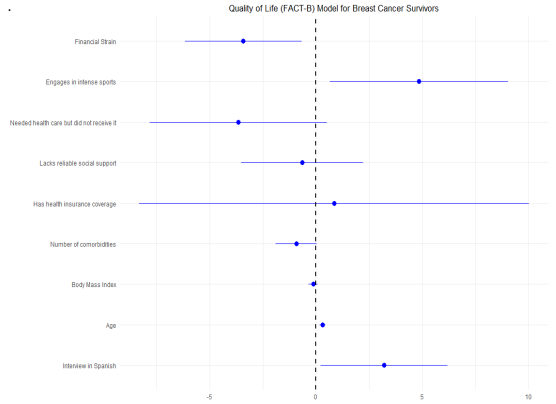
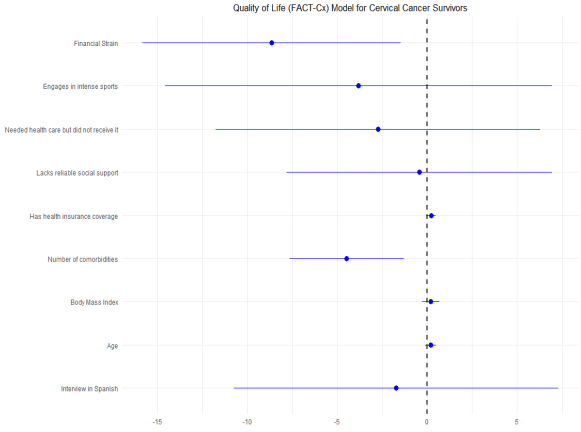


Figure 3. Financial strain and comorbidities were prevalent and significantly associated with lower quality of life among cervical cancer survivors.



Discussion

This study demonstrates that NMDoH, particularly financial strain and number of comorbidities, are a significant determinants of lower QoL among H/L breast and cervical cancer survivors in STX.

These findings 1) highlight the critical role of NMDoH in survivorship experiences beyond traditional clinical factors, and 2) underscore the need for comprehensive survivorship care models integrating NMDoH assessments and support services, such as financial navigation and culturally tailored exercise programs, to reduce issues and enhance QoL.

Future Directions

While this study focused on women, future directions should investigate how NMDoH influence QoL among H/L male cancer survivors, particularly those with prostate, colorectal, or liver cancers. The current sample had a median age of 55 for breast and 47 for cervical cancer survivors. Investigating adolescent and young adult Latina survivors and their experiences with NMDoH may differ and warrant age-specific support strategies. Future studies should pilot targeted interventions addressing a single NMDoH—such as unmet healthcare needs—and evaluate changes in QoL and self-reported NMDoH before and after receiving patient navigation services. This would help assess the intervention's effectiveness and long-term impact.

Contact

Derek Rodriguez, Ph.D.
Institute for Health Promotion Research
Email: rodriguezd37@uthscsa.edu
Website: https://ihpr.uthscsa.edu/
Phone: 210-567-6500

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