

Examination of race/ethnicity specific [Hispanic vs. non-Hispanic White (NHW)] differences in Patient Reported Outcomes (PROs) among elderly female breast cancer (BC) patients with longitudinal follow-up survey data in the SEER-MHOS database.

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Background:

Previous literature suggests that there is a disparity between Hispanic and non-Hispanic White (NHW) older adult breast cancer survivors with regards to health-related patient reported outcomes (PROs). In addition, few studies have examined factors that may mediate this association in longitudinal follow-up survey data which was the impetus for our study.

Methods:

Data is from the Surveillance, Epidemiology and End Results- Medicare Health Outcomes Survey (SEER-MHOS). Our analytic sample (n=18,457) is 12,964 NHW and 1,793 Hispanic women with BC diagnosed between 2010-17, and with longitudinal follow-up surveys done through 2019. We used generalized linear models with predictive margins [risk differences (RD) with 95% confidence intervals (CI)] to estimate average controlled direct associations (ACDA) for crude and age/body mass index (BMI)-adjusted physical and mental health PROs [Physical and Mental Component Summary T-Scores (PCS/MCS: are linear transformation of the 0-100 possible range scoring for 8 Veterans RAND 12 Item Health Survey (VR-12) sub-scales, with mean of 50 and standard deviation (SD) of 10, normed to the US population)] by R/E. We performed a series of ACDA controlling for the domains of socioeconomic position (SEP) [household income, poverty level, and education]; comorbid disease [smoking

status, diabetes, hypertension]; tumor biology [stage, grade, subtype]; treatment factors [treatment type]; and social support [marital status].

Results:

Hispanic women had a younger age at diagnosis, greater BMIs, and in general had lower household income compared to NHW women. Further, Hispanic women were less likely to be married, more likely to have diabetes, and more likely to have high blood pressure. Observed PRO trends for all women decreased over the 10-year period, but trends remained lowest for Hispanic women in comparison to NHW. In crude models, the MCS/PCS difference was -5.63 (95% CI: -6.54, -4.72) and -3.90 (95% CI: -3.99, -3.82) for Hispanic women compared to NHW. In age/BMI adjusted baseline models, compared to NHW, Hispanic women had significantly lower MCS/PCS scores [-5.23 (95% CI: -6.41, -4.05), and -3.56 (95% CI: -3.89, -3.22), respectively]. For both MCS/PCS scores, the SEP domain mediated the majority of the effect (MCS= 41% and PCS= 63%) with household income having the greatest influence within the domain (MCS= 29% and PCS= 43%). In fully specified models with all 5 mediating domains, the MCS/PCS disparity for Hispanic vs NHW women remained lower [-2.69 (95% CI: -3.43, -1.96), and -0.79 (95% CI: -2.22, 0.63), respectively]. Further, as the MCS difference from the latter model is >2% points, this difference is considered to be more than a minimally important difference; this is however, in contrast to the PCS difference.

Conclusions:

Our findings suggest that the observed R/E PRO disparities between elderly Hispanic and NHW women with BC is largely mediated by SEP, and likely specifically by household income. In addition, after mediation analysis, Hispanic women appear to

have an almost 2.7% lower MCS score which remains unexplained and requires further study.