Factors Associated with Adherence to Surveillance Mammography Among a Racially and Ethnically Diverse Cohort of Breast Cancer Survivors

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Background and Objective

- Annual mammography is the cornerstone of post-treatment surveillance for breast cancer survivors.
- Routine surveillance is associated with earlier detection of local recurrence and improved survival.[1]
- Adherence to surveillance remains variable, and psychological distress (anxiety/depression) has been proposed as a potential barrier to follow-up care.[2]
- To investigate the association between demographic, clinical, and documented mental health factors (anxiety and/or depression) and adherence to surveillance mammography in a large, racially, and ethnically diverse cohort of breast cancer survivors.

Methods

- **Study Design:** Retrospective cohort study
- **Study Population:** 1,970 women diagnosed with Stage 0–III breast cancer at Columbia University Irving Medical Center (CUIMC), New York, NY (2018–2023)
  Exclusions: Stage IV breast cancer or bilateral mastectomies
- **Primary Outcome: Adherence to Surveillance Mammography** (Yes/No) defined as receiving at least one mammogram within **15 months** of diagnosis
- **Primary Exposure: Psychological Distress** (Yes/No) defined by documented **ICD-10 codes** for anxiety and/or depression in the medical record. A total of **559 patients** (28.4% of the cohort) had documented codes for psychological distress.
- **Covariates:** 1) age at diagnosis; 2) race/ethnicity; 3) marital status; 4) primary health insurance; 5) family history of breast cancer; 6) breast cancer stage at diagnosis; 6) breast surgery, radiotherapy, chemotherapy, and hormonal therapy
- **Statistical Analysis:** Multivariable logistic regression was used to assess the association between demographic, clinical, and psychosocial factors and adherence to surveillance mammography.

Results

- **Cohort Characteristics:**
  - Mean age was 59.2 years.
  - Cohort was diverse: 33% Hispanic, 32% Non-Hispanic White, 12% Black.
- **High Adherence Rate:**
  - **94.6%** (N=1,863) of the cohort was adherent to surveillance guidelines.
- **Primary Exposure Finding:**
  - Documented psychological distress was **NOT significantly associated** with adherence to surveillance mammography (AOR = 0.89; 95% CI: 0.57–1.39).
- **Key Sociodemographic Findings:**
  - **Hispanic ethnicity** was associated with **increased adherence** compared to Non-Hispanic White women (AOR = 1.95; 95% CI: 1.15–3.28).
  - **Being married** was associated with **decreased adherence** compared to being unmarried (AOR = 0.63; 95% CI: 0.41–0.95).

Conclusions

- Adherence to surveillance mammography was **exceptionally high** in this racially and ethnically diverse academic urban cohort (**94.6%**).
- Contrary to some literature, documented **psychological distress was not a significant predictor of adherence to surveillance mammography**, suggesting system-level supports may effectively mitigate its impact.
- **Hispanic women** showed significantly **higher adherence** compared to Non-Hispanic White women, which may warrant further investigation into cultural factors.
- Targeted survivorship care strategies are needed for groups with lower adherence.

Figure 1

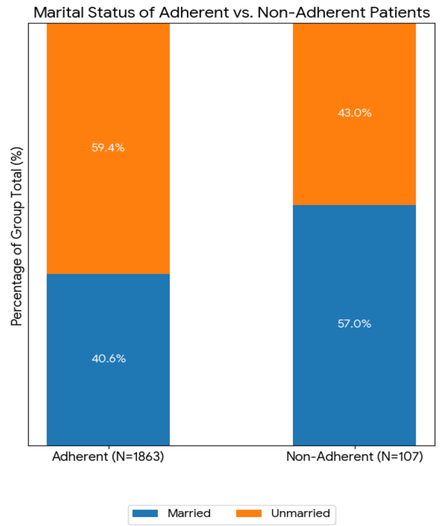


Figure 2

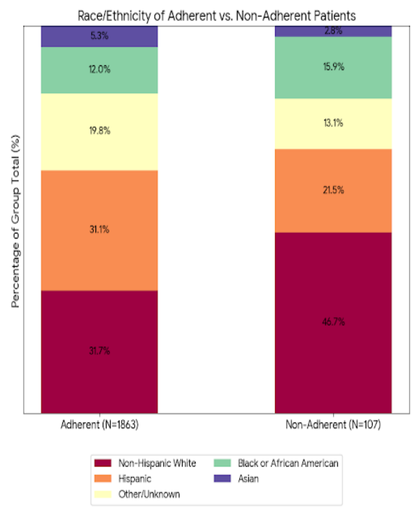


Table 1: Key Factors Associated with Mammography Adherence *(N = 1970)*

Variable	Category (vs. Referent)	Adjusted Odds Ratio (95% CI)	p-value
Psychological Distress	Yes (vs. No)	0.89 (0.57–1.39)	0.611
Race/Ethnicity	Hispanic (vs. Non-Hispanic White)	2.00 (1.18–3.38)	0.010
Marital Status	Married (vs. Unmarried)	0.63 (0.41–0.95)	0.029

Future Directions

- Future studies should utilize validated screening instruments (instead of ICD-10 codes) to better capture the prevalence and true impact of psychological distress.
- Qualitative research should explore patient-reported barriers to follow-up care to develop tailored, equitable interventions.

References

1. Kollias J, Evans AJ, Wilson AR, Ellis IO, Elston CW, Blamey RW. Value of contralateral surveillance mammography for primary breast cancer follow-up. World journal of surgery. 2000 Aug; 24:983-9.
2. Wang X, Wang N, Zhong L, Wang S, Zheng Y, Yang B, Zhang J, Lin Y, Wang Z. Prognostic value of depression and anxiety on breast cancer recurrence and mortality: a systematic review and meta-analysis of 282,203 patients. Molecular psychiatry. 2020 Dec;25(12):3186-97.

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