Impact of Hormone Receptor-Positive Breast Cancer Subtypes on Oral Endocrine Therapy Adherence and Persistence

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Objectives

1. Assess the association between Hormone Receptor-positive (HR+) breast cancer subtypes and adjuvant oral endocrine therapy (AOET) persistence and adherence
2. Examine impact of sociodemographic and clinical factors on AOET persistence and adherence within and between HR+ subtypes

Introduction

- HR+ breast cancer accounts for approximately 78% of breast cancer cases in the United States
- HR+ tumor classifications and subtypes guide treatment intensity and strategy
- AOETs are considered first-line treatment for HR+ breast cancers
- AOET adherence and persistence remain suboptimal, with up to 50% of pts not following or completing their prescribed regimen
- Limited research has examined how HR+ subtypes play a role

Methodology

- Retrospective chart review using the Rush University Medical Center's 2014 Breast Cancer Registry evaluating stage I-III HR+ BC subtypes, demographics, and other clinical factors

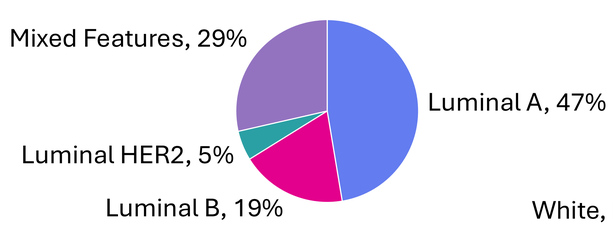
Subtype	ER	PR	HER2	Ki67
Luminal A	+	+	-	<20%
Luminal B	+	+/-	-	>20%
Luminal B HER2	+	+/-	+	15-30%

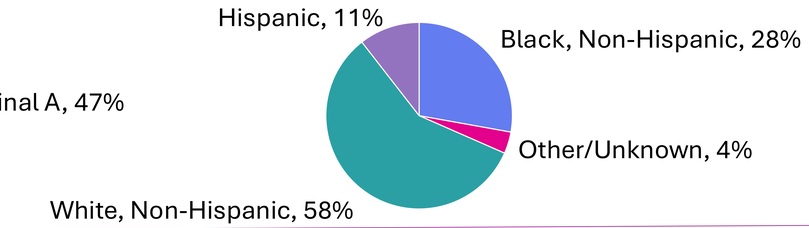
- **Demographics:** Race, ethnicity, and age
- **Clinical factors:** Treatment, side effects, comorbidities, and polypharmacy
- **Inclusion:** Patients diagnosed with stage I-III HR+ breast cancer treated with AOET and who received continuous care at RUMC

Results

Sample Characteristics:

- 391 patients were identified in the 2014 Breast Cancer Registry
- 133 met inclusion criteria





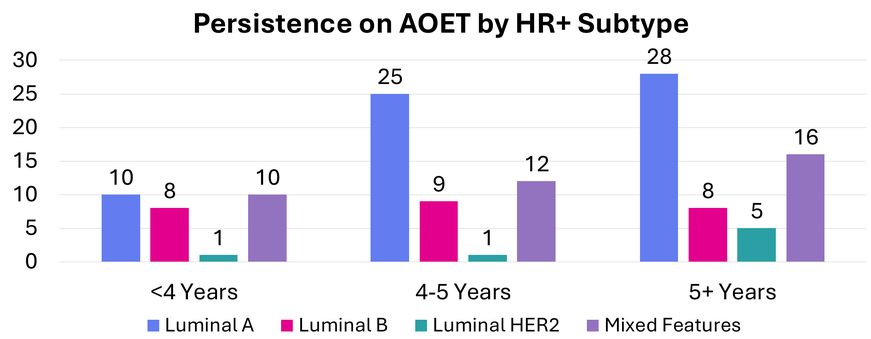


Figure 1. Across all subtypes, only 57 patients (43%) remained on AOET for at least 5 years (minimum years for completion). There were no statistically significant differences in AOET duration among subtypes (p = 0.22).

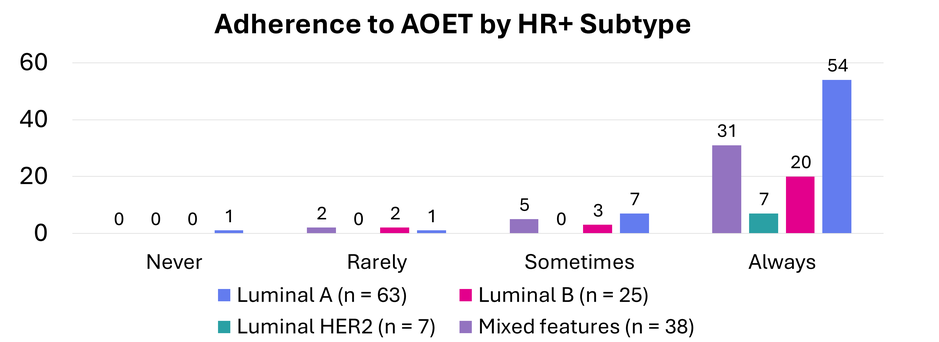
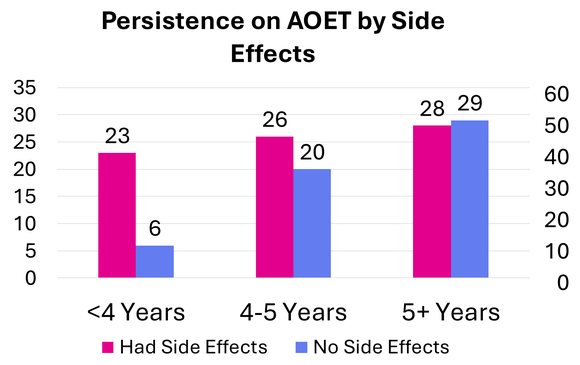
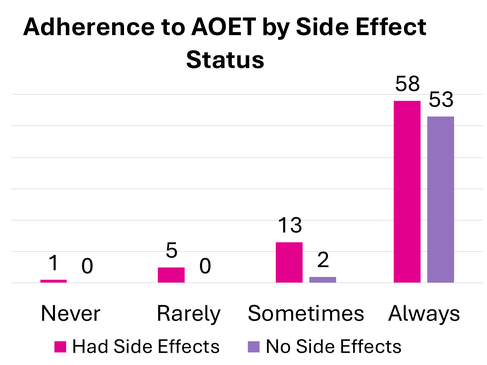
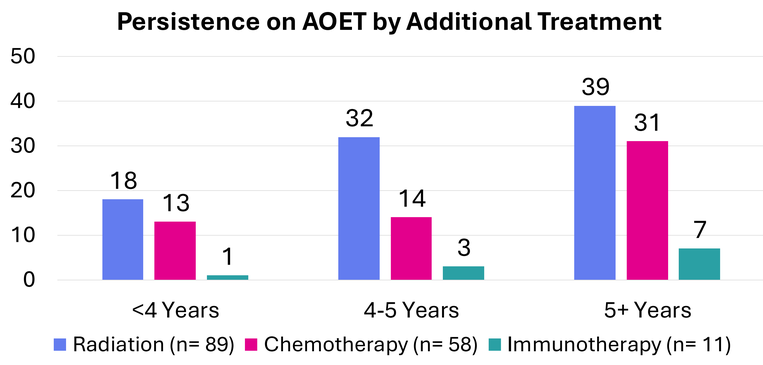


Figure 2. Across all subtypes, 84% of all patients always took their AOET as prescribed. Adherence to AOET based on subtype was not statistically significant (p = 0.84).







Figures 3-5. Consistent with prior studies, patients who reported endocrine-related side effects were significantly more likely to discontinue therapy early (p = 0.026) and were less likely to take AOET as prescribed (p = 0.005 for multi-level adherence; p = 0.003 for binary adherence). Receipt of chemotherapy was significantly associated with longer AOET duration (p = 0.042), suggesting treatment intensity may influence persistence.

Summary & Discussion

- Molecular subtype, race, and age were not a statistically significant predictor of AOET adherence or persistence in this cohort.
- Treatment-related side effects were significantly associated with reduced persistence and nonadherence.
- Chemotherapy exposure was significantly associated with increased persistence.
- Our findings confirm that the relationship between side effects and endocrine therapy nonadherence persists across subtypes and treatment regimes.
- Our results underscore the need for care plans that address symptom burden and treatment intensity, especially for patients receiving multimodal therapy.
- Future work should explore how subtype-specific treatment planning may inform adherence interventions in HR+ breast cancer.