ABSTRACT #1454: Financial Toxicity in Breast Cancer Patients Assessed by the COST Score: A Systematic Review and Meta-analysis

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Introduction

Financial toxicity (FT) has become an increasingly recognized adverse effect of breast cancer treatment, with implications for quality of life, treatment adherence, and survivorship. The COmprehensive Score for Financial Toxicity (COST) is the most widely validated patient-reported measure of FT. This systematic review and meta-analysis aimed to quantify the burden of FT among breast cancer patients assessed with the COST tool and to explore whether sociodemographic or clinical characteristics were associated with variation in COST scores.

Methods and Materials

A systematic search of PubMed, Embase, Cochrane, and LILACS was conducted through April 2025 following PRISMA guidelines. Studies evaluating FT in adult breast cancer patients using the COST instrument were eligible. Two reviewers independently performed screening, data extraction, and risk-of-bias assessment using the Newcastle–Ottawa Scale. Random-effects models estimated pooled mean COST scores. Heterogeneity was quantified with I^2, temporal trends were assessed with bubble-plot metaregression, and subgroup analyses examined marital status, educational level, and disease stage.

Conclusions

FT is consistently observed among women with breast cancer. **However, the limited reporting of socioeconomic and racial subgroups, the predominance of studies from high-income settings and the absence of data from Latin America constrain the ability to understand disparities and identify high-risk populations.**

Future research must prioritize systematic socioeconomic and racial reporting, inclusion of diverse global populations and evaluation of FT in underrepresented regions to better guide interventions and policies aimed at reducing financial hardship in breast cancer care.

Results

Fifteen studies contributed to the quantitative synthesis. The pooled mean COST score was 24.34 (95% CI 21.81–26.86), corresponding to grade 1 (mild) FT. Individual study means ranged widely, from 10.13 to 37.30. The funnel plot showed pronounced asymmetry, characterized by a relative absence of small studies reporting low COST scores, suggesting possible publication bias and dominance of studies from high-income settings. Racial and ethnic reporting was limited, with most studies enrolling predominantly White or Asian populations and very few providing COST outcomes stratified by race or socioeconomic status. These gaps restrict the ability to identify subgroups at higher risk for severe FT. No statistically significant differences were observed by marital status (p=0.21), educational attainment (p=0.18), or disease stage. Heterogeneity was substantial (I^2 >95%), reflecting substantial variability in study populations, socioeconomic environments and healthcare systems.

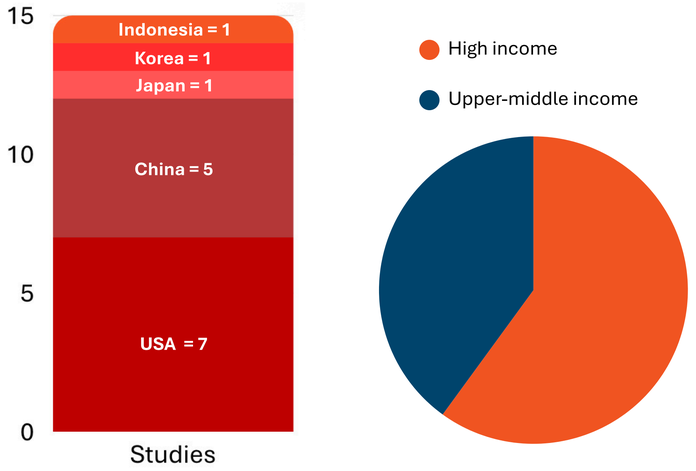


Figure 1. Geographic distribution and World Bank income classification of the 15 studies included in the meta-analysis. Most studies were conducted in high-income countries (United States, Japan, and South Korea), with the remaining from upper-middle–income settings (China and Indonesia). No studies from Latin America or from low- or lower-middle–income countries were identified.

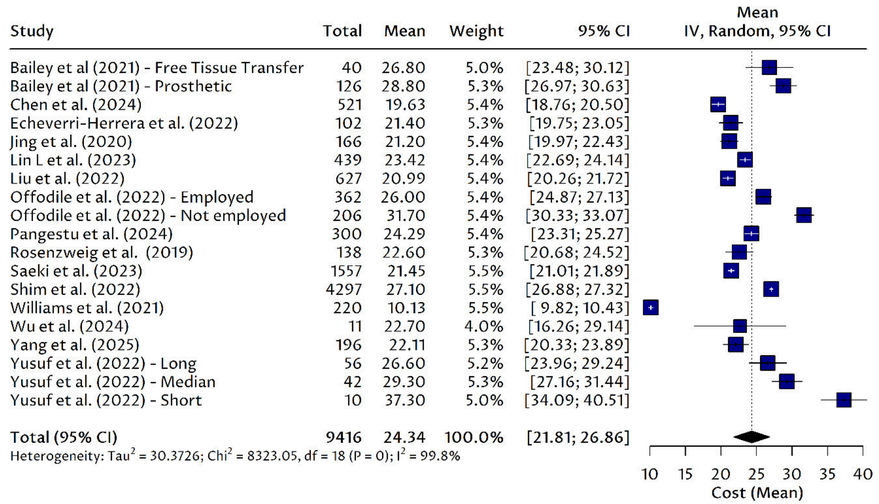


Figure 2. Forest plot of the pooled studies and respective COST scores.

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