Improving Outcomes in Patients With High-risk Breast Cancer: Outcomes and Analysis From an Educational Program on HR+/HER2- Early and Metastatic Breast Cancer

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Background

- Treatment of breast cancer has advanced rapidly during the past decade.[1]
- However, patients with hormone receptor–positive (HR+), HER2-negative (HER2-) disease with high-risk features are particularly vulnerable to relapse or progression in both the early-stage breast cancer (EBC) and advanced/metastatic breast cancer (MBC) stage settings.[2-4]
- Here we report data from a formative educational program, including posteducation assessments on improving outcomes for patients with high-risk HR+/HER2- breast cancers.

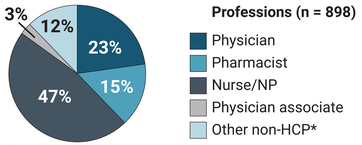
Methods

- A multidisciplinary curriculum was developed to provide CME/CE-certified education on identifying high-risk features, assessing for endocrine therapy resistance mutations, and selecting the optimal therapy for each patient with high-risk HR+/HER2- breast cancer, as well as provide education on oral therapy adherence and toxicity management.
- From December 22, 2023, to May 28, 2024, data were collected from live and online healthcare professional (HCP) surveys administered during and after CME/CE education.
- Breast cancer expert–endorsed patient-targeted resources and clinical guideline–based slidesets were provided for download to all program learners.
- Program follow-up survey data were collected regarding the impact of the education on current clinical practice and other barriers to changing practice.

Results

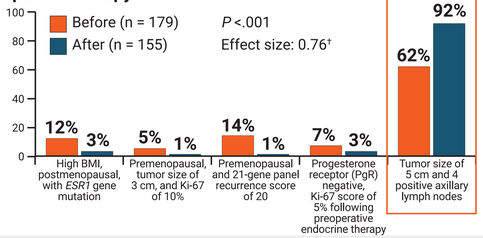
- More than 1000 learners participated in the live or enduring education program from December 22, 2023, to May 28, 2024.
  - Approximately 84% indicated they cared for patients with breast cancer.

Figure 1. Learner Demographics



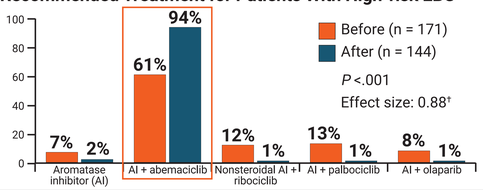
*Other non-HCP included psychologist, social worker, nutritionist, and pharmacy technician.

Figure 2. Improvement in Assessing High Risk Features in Patients With HR+/HER2- EBC to Guide Optimal Therapy Selection



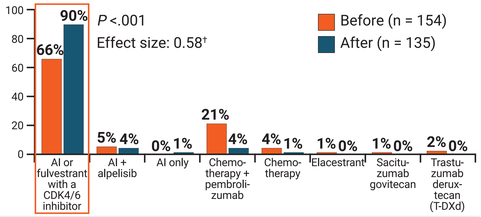
Takeaways: Compared with 62% at baseline, after education, 92% of learners were able to identify patients with EBC with a 5-cm tumor and positive axillary lymph nodes as a higher-risk population. At the beginning of the program, 19% of learners felt confident in their ability to identify patients with high-risk disease overall, and improvement in this metric was noted (43%) toward the end of the program.

Figure 3. Improvement in Selecting Optimal Guideline-Recommended Treatment for Patients With High-risk EBC



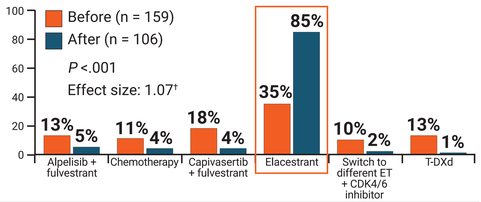
Takeaways: Compared with 61% at baseline, after education, 94% of learners were able to identify patients with EBC with 5-cm right breast mass with a suspicious palpable axillary lymph node (status/post 4/15 positive nodes), grade 2, estrogen receptor (ER) 80%, PgR 30%, and HER2- by immunohistochemistry (IHC) as a higher-risk population.

Figure 4. Improvement in Selecting Optimal Guideline-Recommended Treatment for Patients With High-risk MBC



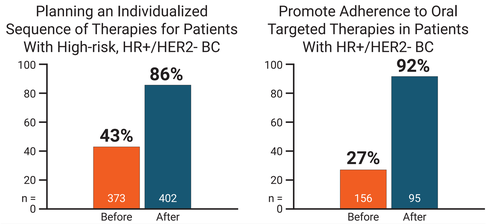
Takeaways: Compared with 66% of learners at baseline, after education, 90% of learners selected optimal therapy of AI or fulvestrant with a CDK4/6 inhibitor for a 57-year-old postmenopausal woman considered high-risk based on MBC with a 7-cm left breast mass, suspicious 5-cm mass in the liver, and no other visceral involvement (breast and liver biopsies: invasive ductal cancer, ER 100%, PgR 60%, HER2- by IHC; Ki-67 30%; and germline *BRCA* mutation status unknown).

Figure 5. Improvement in Selecting Optimal Therapy for Endocrine Therapy Resistant *ESR1*-Mutant High-risk MBC



Takeaways: An absolute 50% value increase improvement was achieved for learners' knowledge in individualizing therapy for a 73-year-old woman diagnosed with de novo stage IV ER-positive, PgR-positive, HER2- MBC with liver and bone metastases; breast and liver biopsies ER 90%, PgR 90%, HER2 1+, fluorescence in situ hybridization–negative invasive ductal carcinoma (*BRCA1/2* and *PALB2* wild type) and previous treatment with ribociclib plus AI, with progressive disease in bones after 34 months of treatment and developing an activating *ESR1* mutation.

Figure 6. Improvement in Key Program Metrics



Takeaways: An absolute 43% (*P* <.001) and 65% (*P* <.001) value increase was achieved for learners' knowledge/competence in individualizing therapy for high-risk metastatic breast cancer and for recommending strategies to promote oral treatment adherence with CDK4/6 inhibitors.

Table 1. Continued Impact of the Education as Expressed by Learners

Education on HR+/HER2- High-risk EBC and MBC Impact on Practice (n = 417)	Responses, n (%)
Shifted me from awareness of the topic to agreement with best practices	200 (48)
Shifted me from agreement with best practices to adoption of best practices	53 (13)
Shifted me from adoption of best practices to application of routine best practices	37 (9)

Takeaways: From those answering the posteducation survey, 48% indicated a shift from awareness to agreement with best practices, 13% increased adoption or application of best practices, and 21% stated the education helped them in another way.

Table 2. Barriers to Changing Current Clinical Practice

Remaining Barriers to Changing Current Clinical Practice (n = 364)	Responses, n (%)
Acceptance by peers or colleagues	124 (34)
Guideline or evidence is not applicable to my current practice	75 (21)
Insurance or formulary restriction	86 (24)
Lack of interprofessional support	37 (10)
Patient adherence/compliance	64 (18)
System, organization, or institution constraints	72 (20)
Time constraints	46 (13)
Other	16 (4)

Takeaways: Top barriers to adoption of expert recommendations and strategies included acceptance of colleagues (34%), insurance/formulary restrictions (24%), and patient adherence/compliance (18%).

†Cohen's d: Difference in means divided by the square root of the pooled-group variances, 0.20-0.49 (small), 0.50-0.79 (medium), 0.80-1.29 (large), 1.30-2.00+ (very large). This effect size (defined as the strength of a relationship between 2 variables or groups used to identify the significance of a research outcome) is calculated on the subset of learners from the matched analysis.

Ongoing Educational Opportunities

- This large, expert-led, multidisciplinary, CME/CE-certified educational program suggests ongoing needs for continued education on the management of patients with high-risk HR+/HER2- breast cancer.
- Educational testing on HR+/HER2- high-risk breast cancer showed substantial improvements in HCPs' confidence, knowledge, and competence in their ability to identify patients with high-risk features, recommend optimal guideline-based therapies.
- There remain key but addressable barriers to implementing best practices including acceptance of new standards and best practices by peers/colleagues, insurance/formulary restrictions, lack of new guidelines for new/emerging evidence, patient adherence/compliance with oral therapies.
- These results highlight the importance of ongoing education and the need for a multidisciplinary program to improve HCPs' treatment decisions for high-risk HR+/HER2- breast cancer in the view of recent approvals and emerging new options.

References

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