Comparing User Experience Between AI-powered Thermal Test and Mammography: Results from a Single-Center

THE UNIVERSITY OF ARIZONA Cancer Center

S.S Kraus[1], A. Moreno[2], A. Carrier[2], P. Zimemrman[2], D. Roe[2], P. Chalasani[2,3]

1.School of Medicine and Health Sciences, University of Arizona, 2. University of Arizona Cancer Center 3. Department of Hematology and Oncology, George Washington Cancer Centre, Washington, DC.

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Introduction

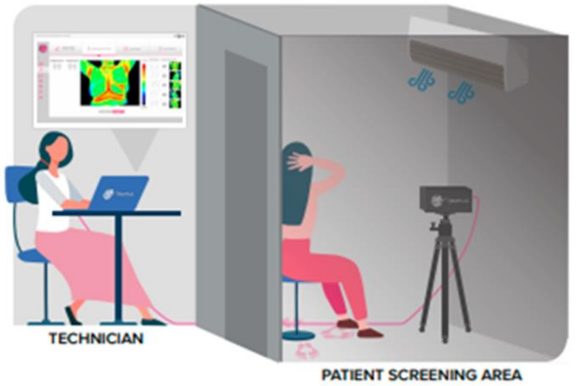
- Some women avoid Mammography screening due to its poor experience.
  - 25–46% of women reported moderate to severe pain during the procedure [1].
  - Anxiety and discomfort are major reasons for screening avoidance, especially among asymptomatic women [2–4].
- Thermalytix is a non-contact, radiation-free, AI-based breast screening tool offering a "no-touch, no-radiation, no-see" experience.
- Prior studies demonstrated good sensitivity and specificity of Thermalytix compared to Mammography + Ultrasound (NCT04688086) [5–7].
- This study provides the first U.S.-based comparative evaluation of user experience between Thermalytix and mammography. (NCT05650086)

Materials and Methods

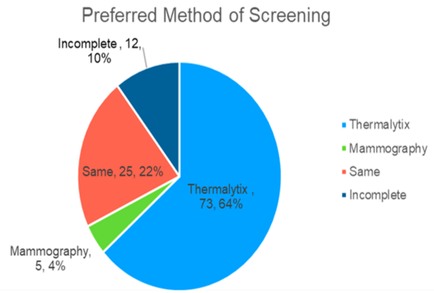
- **Study Design:** Prospective single-center study (Arizona Cancer Center)
- **Participants:** 115 women underwent both mammography and Thermalytix based breast screening.
- **Assessment Tool:** Standardized post-procedure survey using 1–5 Likert scale (5 = most favorable) for:
  - Comfort during procedure
  - Level of anxiety experienced
  - Perceived time taken
- Participants also stated their overall preference and reason for preference.

Thermalytix

No Touch
No See
No Pain
No Radiation



Results



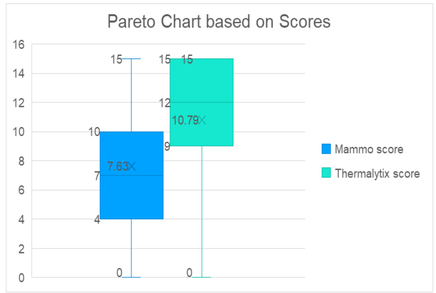


Figure 2: (a) Pie chart showing the distributions of preference given by the participants. (b) Pareto chart based on the 1-5 scores given the participants

Results

Parameter	Thermalytix	Mammography
Comfort	4.3	2.4
Anxiety	4.4	3.3
Time perception	4.5	4.1

- Of the 115 participants, 12 participants did not complete the survey, 25 gave similar scores for both modalities and 73 participants rated Thermalytix higher, while 5 preferred Mammography.
- Qualitative Insights: Among the 66 women who gave text remarks:
  - 57 (86.4%) preferred Thermalytix over Mammography.
  - 5 preferred mammography as they were unsure about AI test
  - 4 had equivocal comments
  - Top reasons for preferring Thermalytix over Mammography include at least one of the following reasons: No Pain (17), Comfort (18), No Compression (11), Radiation-Free (6), Easy/Relaxed (5), Private/No-Touch (4).

Conclusion

- Thermalytix achieved significantly better user ratings for comfort, anxiety, and perceived duration.
- The non-contact, radiation-free, and private nature of the test addresses some of the known barriers to mammography adherence.
- With 87.9% overall preference, Thermalytix shows strong user acceptability and potential to increase screening participation, particularly among women sensitive to discomfort/pain.
- Large-scale clinical validation in US is needed.

Contact

P. Chalasani
Pavani.chalasani@gwu.edu

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