

# Bridging perspectives: correlation between patient-reported and clinician-reported outcome (breast pain) in Breast cancer radiotherapy.



Comprehensive version

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## BACKGROUND

Conventionally, clinician-reported outcomes (CROs) are used to evaluate skin toxicity after radiotherapy (Haviland et al., 2016). Recently, there has been growing interest in using patient-reported outcomes (PROs) because they improve symptom management. PROs describe subjective experiences (Lam et al., 2020). However, significant differences have been noted between PROs and CROs in reporting skin toxicities. It is essential to address these differences to improve symptom management and quality of life.

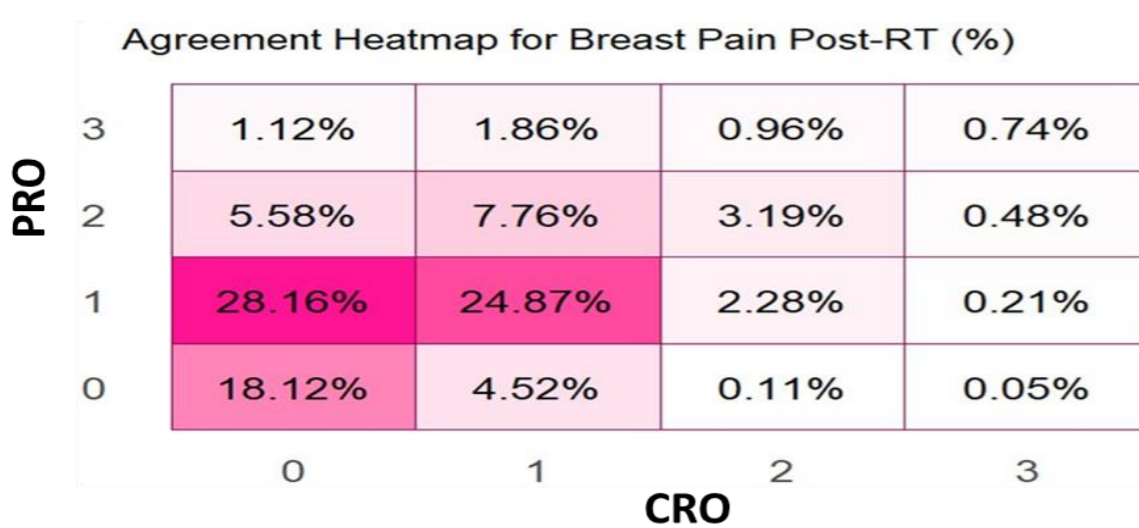
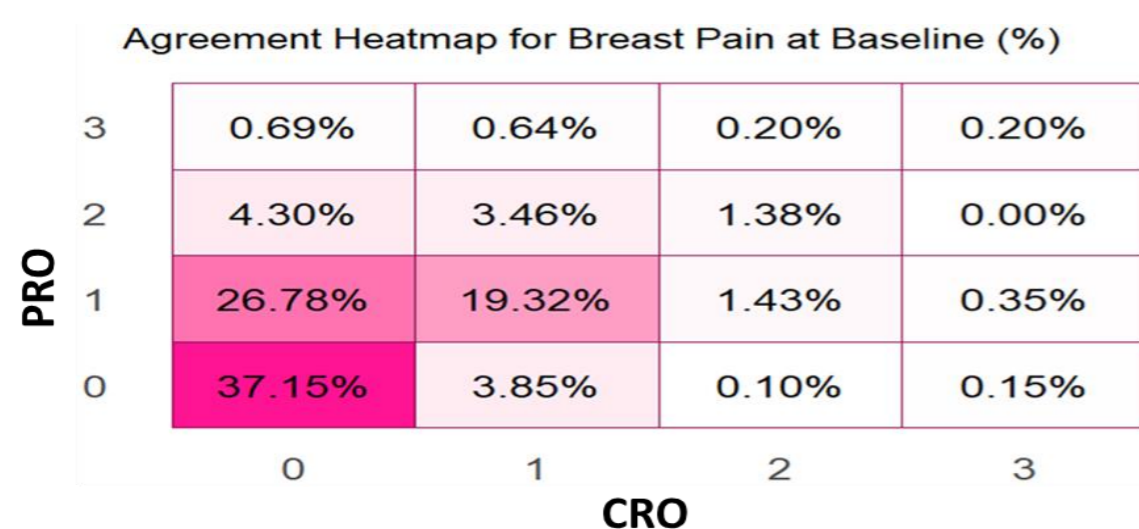
**AIM:** To assess the correlation between patient- and clinician-reported outcomes for breast pain in breast cancer radiotherapy.

## STATISTICAL ANALYSIS

Using R, Spearman correlation analysis was used to assess the relationship between PROs and CROs for breast pain after Radiotherapy. Intra-class correlation coefficients (ICCs), F1 scores, and weighted kappa statistics measured rater agreement. An ordinal logistics regression model was used to assess the association between pain severity (0 to 3) and age (23 to 90).

## RESULTS

The analysis indicates that Patients reported more severe symptoms than clinicians at each time point; the agreement level between the two patients and clinicians is low, as shown in the heatmaps and validated by the performance metrics. The predictive model indicated that the probability of experiencing breast pain decreased as age increased.



0-No pain,1-A little,2-Quite a bit,3 – Very much

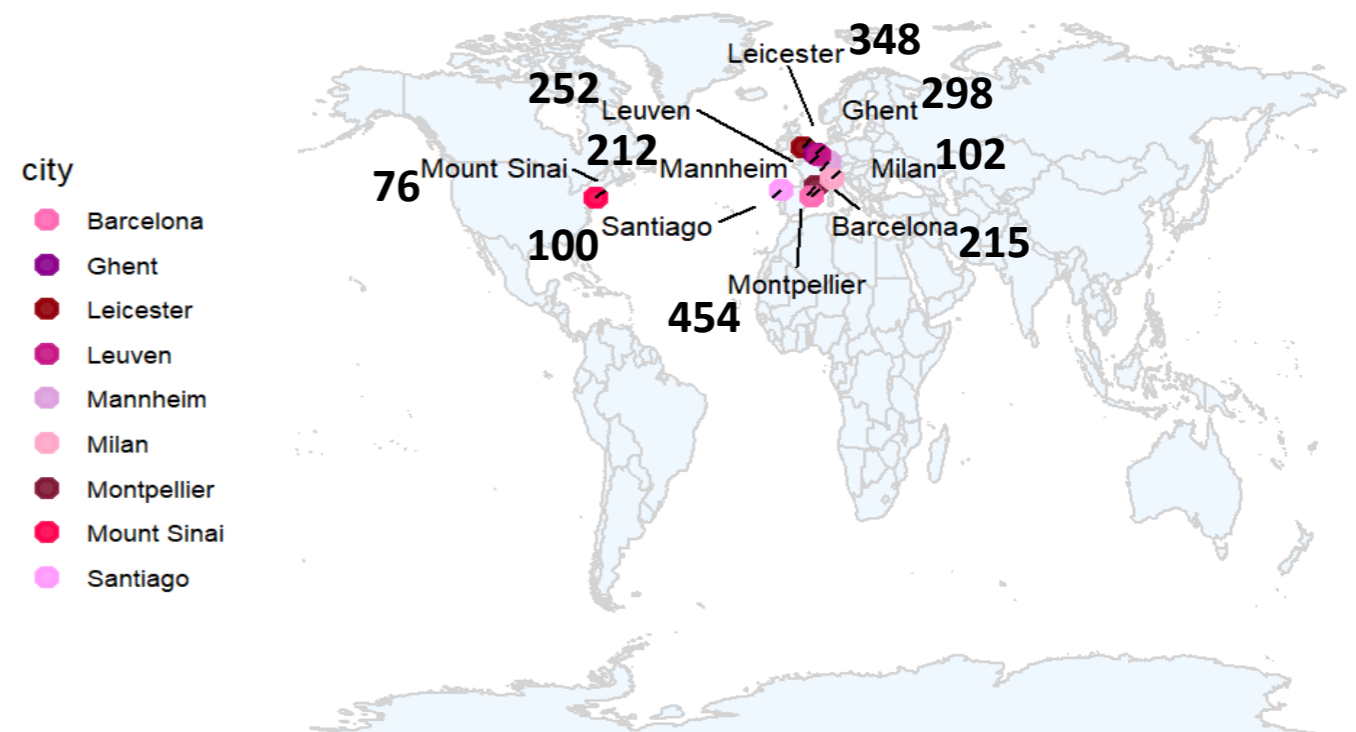
### Performance and Reliability metrics

Timeline	ICC(2, 1)	Correlation coefficient	Kappa	F1 Score
Baseline	0.391	0.376	0.279	0.514
Post-Radiotherapy	0.326	0.397	0.184	0.526

## METHOD

Data was collected from breast cancer patients in the REQUITE cohort study from 8 sites (Belgium, Barcelona, America, England, France, Germany, Italy, and Spain (Seibold et al., 2019). The cohort consisted of female patients enrolled on radiotherapy treatment.

### Study Sites



### Model Summary

Timeline	Odds Ratio Per year	P-value	Confidence Interval
Baseline	0.987	<0.05	[0.98, 0.99]
Post-Radiotherapy	0.977	<0.05	[0.97, 0.98]

## CONCLUSION

The analysis indicated that patients reported a higher severity of symptoms than clinicians. Furthermore, as the severity of symptoms increased, the disagreement between patient and clinician reports became more evident. The predictive model indicates that as age increases, the probability of having breast pain decreases.

## RECOMMENDATIONS

- Adoption of standardised and validated pain assessment tools to ensure consistent recording and integration of pain features into clinical decisions.
- Active Listening Training: Provide training on active listening techniques to ensure clinicians fully capture patient-reported symptoms.

## REFERENCES

- Haviland et.al, 2016. DOI: [10.1016/j.clon.2016.01.011](https://doi.org/10.1016/j.clon.2016.01.011)  
 Lam et.al, 2020. DOI: [10.1016/j.breast.2019.09.009](https://doi.org/10.1016/j.breast.2019.09.009)  
 Seibold et.al 2019. <https://doi.org/10.1016/j.radonc.2019.04.034>

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