

Estimate of incident breast cancers in Italy by subtypes and age

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We aimed at estimating the Italian burden of incident breast cancers (BC) by subtypes, according to the distribution of hormonal receptor (HR) status and expression of human epidermal growth factor 2 (HER2).

First, we compared BC incidence in the Romagna Unit of the Emilia-Romagna registry (n. 10,711) grouped into: HR+ /HER2-, HR+ /HER2+, HR-/HER2+, HR-/HER2- and missing, and by age: < 50, 50-69 and 70+ years, with other published Italian population-based series (Table below). Considering the lower proportion of missing and the good agreement with SEER, we used them for national estimates based on published national expected BC published by the Italian network of cancer registries and including age/geographic-specific variation of the Italian population.

Age years	Breast cancer molecular subtypes					total
	HER2-/HR+ n. (%)	HER2+/HR+ n. %	HER2+/HR- n. %	HER2-/HR- n. %	Unknown n. (%)	
<50	8666 (68,1%)	1584 (12,5%)	661 (5,2%)	1180 (9,3%)	628 (4,9%)	12718
50-69	17479 (73,8%)	2044 (8,6%)	1176 (5,0%)	1809 (7,6%)	1161 (4,9%)	23669
70+	12696 (68,3%)	1037 (5,6%)	444 (2,4%)	1109 (6,0%)	3303 (17,8%)	18589
All	38841 (70,7%)	4665 (8,5%)	2281 (4,1%)	4098 (7,5%)	5092 (9,3%)	54976

Table above: Overall, 70.7% of Italian incident BC cases are expected to be HR+ /HER2-, 8.5% HR+ /HER2+, 7.5% HR-/HER2-, 4.1% HR-/HER2+ and 9.3% missing. The global ranking is similar across age-groups but with age-specific differences. In Italy, 38841 HR+ /HER2- BC cases are estimated, 4665 HR+ /HER2+, 4098 HR-/HER2-, 2281 HR-/HER2+, and 5092 not specified.

The present estimates relied on high-quality population-based data and provide a clinically relevant information on the burden of breast cancer subtypes. These data will support the planning of therapy needs for oncologists, decision-makers, and all other stakeholders.

For INFO

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	HER2-/HR+ n. (%)	HER2+/HR+ n. (%)	HER2+/HR- n. (%)	HER2-/HR- n. (%)	Unknown n. (%)	Total
Present study	7563 (70.6%)	896 (8.4%)	438 (4.1%)	792 (7.4%)	1022 (9.5%)	10,711
Caldarella, 2011	1045 (52.7%)	232 (11.7%)	90 (4.5%)	120 (6.0%)	497 (25.1%)	1984
Minicozzi, 2017	2309 (51.3%)	464 (10.3%)	224 (5.0%)	384 (8.5%)	1116 (24.8%)	4497
Tagliabue, 2021	3798 (43.0%)	1093 (12.4%)	354 (4.0%)	490 (5.5%)	3095 (35.1%)	8831
SEER 2015-19	(68%)	(10%)	(4%)	(10%)	(7%)	337102