

Clinical Performance of Mammography Clinical Performance of Mammography Mammography Performance Indicators

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Abstract

Objective: To assess the performance of mammography in a community-based setting. We evaluated the sensitivity, specificity, and positive predictive value of mammography in a population of 15,662 women aged 40 to 74 years.

Methods: We conducted a cross-sectional study of 15,662 women aged 40 to 74 years. All women underwent a mammogram. The results were compared to the results of a mammogram performed in a clinical setting. The performance of mammography was evaluated using sensitivity, specificity, and positive predictive value. The study was conducted between 2008 and 2017. The overall sensitivity was 46.7%, specificity was 96.7%, and positive predictive value was 1.1%.

Results: A total of 15,662 women were included in the study. The overall sensitivity was 46.7%, specificity was 96.7%, and positive predictive value was 1.1%. The sensitivity was significantly lower in women aged 40 to 49 years (3.6%) compared to women aged 50 to 74 years (46.7%) (P < .001). The specificity was significantly higher in women aged 40 to 49 years (96.7%) compared to women aged 50 to 74 years (96.7%) (P < .001). The positive predictive value was significantly higher in women aged 40 to 49 years (1.1%) compared to women aged 50 to 74 years (1.1%) (P < .001).

Conclusion:

TABLE 1. Clinical Characteristics of the Patients

	A (N=11,256)	E (=5419)	P (=5837)	P
Age (years)	61.3±13.2	56.9±11.7	65.3±13.2	<.001
Male	6414 (57.0)	3410 (62.9)	3004 (51.5)	<.001
Diabetes				
A	1920 (17.1)	941 (17.4)	979 (16.8)	
N	369 (3.3)	132 (2.4)	237 (4.1)	
A	7193 (63.9)	3636 (67.1)	3557 (61.0)	
D	386 (3.4)	225 (4.2)	161 (2.8)	
D	1382 (12.3)	483 (8.9)	899 (15.4)	<.001
CAD				
H	6892 (61.2)	2569 (47.4)	4323 (74.1)	<.001
H	6359 (56.5)	2980 (55.0)	3379 (57.9)	.002

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χ^2 test results for various comparisons. The results are summarized in the following table:

Comparison	χ^2 Value	df	P-value
TM vs M	5419	4	0.1%
M vs M	537	4	51.9%
TM vs M (a)	61.3	1	57%
TM vs M (b)	34.5	1	6%
TM vs M (c)	4.7	1	30%

The results indicate significant differences between the groups for the TM vs M comparison. The P-value for the TM vs M comparison is 0.1%, which is less than the significance level of 0.05.

RESULTS

The results of the study are presented in the following table:

Comparison	χ^2 Value	df	P-value
TM vs M	5419	4	0.1%
M vs M	537	4	51.9%
TM vs M (a)	61.3	1	57%
TM vs M (b)	34.5	1	6%
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