

Supplementary Table S1. Adjusted factors associated with Mexican Hispanics compared to Non-Mexican Hispanics

	OR*	95% CI		p-value
Diabetes Mellitus	3.45	2.02	5.88	<0.001
Hypertension	0.79	0.51	1.21	0.281
Obesity	1.76	1.19	2.60	0.005
Dyslipidemia	0.18	0.11	0.27	<0.001
Postmenopausal	1.84	1.23	2.77	0.003
Diagnosis-IDC (reference)				
Lobular	0.44	0.24	0.79	0.006
Lobular and Ductal	0.20	0.07	0.56	0.002
Other	0.89	0.42	1.86	0.751
Stage-Early (reference)				
Advanced	1.45	0.90	2.34	0.124
Unknown	0.83	0.53	1.31	0.43
Surgery-None (reference)				
Lumpectomy	5.47	2.94	10.20	<0.001
Mastectomy	2.39	1.34	4.27	0.003
Unknown	0.20	0.05	0.85	0.029
* OR Odds ratio, CI confidence interval; IDC invasive ductal carcinoma				

Supplementary Table S2. Distribution of patient characteristics between Mexicans compared to non-Mexicans among premenopausal women

	Ethnicity		
	Mexicans	Non-Mexicans	p-value
Demographics			
N	280	65	
Age (mean (SD))	42.9 (5.1)	44.2 (4.9)	0.057
BMI, (mean (SD))	30.0 (6.0)	28.0 (5.7)	0.018
Diagnoses			0.002
Ductal	255 (91.1%)	49 (75.4%)	
Lobular	13 (4.6%)	6 (9.2%)	
Ductal and Lobular (mixed)	2 (0.7%)	3 (4.6%)	
Other	10 (3.6%)	7 (10.8%)	
Tumor Characteristics			
Stage of tumor			0.11
Stage I/II (early)	132 (47.1%)	30 (46.2%)	
Stage III/IV (adavnced)	88 (31.4%)	14 (21.5%)	
Unknown	60 (21.4%)	21 (32.3%)	
Type of surgery			<0.001
None	15 (5.4%)	8 (12.3%)	
Lumpectomy	142 (51.1%)	26 (40.0%)	
Mastectomy	121 (43.5%)	28 (43.1%)	
Unknown	0 (0.0%)	3 (4.6%)	
Receptor subtype			
Estrogen receptor	175 (63.9%)	57 (87.7%)	<0.001
Progesterone receptor	157 (57.5%)	50 (76.9%)	0.004
HER2 receptor	49 (20.4%)	13 (20.0%)	0.94
Hormonal receptor	180 (64.3%)	57 (87.7%)	<0.001
Triple-Negative Breast Cancer	65 (27.2%)	8 (12.3%)	0.013
Comorbidities			
Diabetes Mellitus	37 (13.2%)	8 (12.3%)	0.84
Hypertension	58 (20.7%)	16 (24.6%)	0.49
Dyslipidemia	35 (12.5%)	22 (33.8%)	<0.001
Obesity	125 (44.6%)	24 (36.9%)	0.26
Coronary artery disease	3 (1.1%)	0 (0.0%)	0.40
Metabolic abnormalities	17 (6.1%)	9 (13.8%)	0.032
Any comorbidities	168 (60.0%)	40 (61.5%)	0.82
Number of comorbidities			0.20
0	112 (40.0%)	25 (38.5%)	
1	107 (38.2%)	22 (33.8%)	
2	44 (15.7%)	9 (13.8%)	
3	8 (2.9%)	6 (9.2%)	
4	9 (3.2%)	3 (4.6%)	

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Supplementary Table S3. Distribution of patient characteristics by Hispanic origin.

	Mexican	Puerto Rican	Cuban	South/ Central American	Spanish NOS/ Hispanic NOS	Dominican Republic	p-value
Demographics							
N	851	5	11	21	129	3	
Age (mean (SD))	56.1 (11.9)	47.2 (5.5)	55.6 (15.3)	57.9 (10.0)	55.4 (11.8)	64.3 (11.2)	0.40
BMI (mean (SD))	30.9 (6.2)	34.0 (2.5)	27.3 (6.4)	26.4 (4.8)	28.1 (5.9)	25.3 (0.6)	< 0.001
Premenopausal women	280 (32.9%)	4 (80.0%)	4 (36.4%)	7 (33.3%)	50 (38.8%)	0 (0.0%)	0.15
Tumor characteristics							
Diagnoses							< 0.001
Ductal	734 (86.6%)	3 (60.0%)	9 (81.8%)	17 (81.0%)	93 (72.1%)	2 (66.7%)	
Lobular	53 (6.3%)	0 (0.0%)	2 (18.2%)	2 (9.5%)	18 (14.0%)	1 (33.3%)	
Ductal and Lobular	9 (1.1%)	0 (0.0%)	0 (0.0%)	2 (9.5%)	9 (7.0%)	0 (0.0%)	
Other	52 (6.1%)	2 (40.0%)	0 (0.0%)	0 (0.0%)	9 (7.0%)	0 (0.0%)	
Stage of tumor							0.44
Stage I/II	420 (49.4%)	2 (40.0%)	5 (45.5%)	7 (33.3%)	61 (47.3%)	2 (66.7%)	
Stage III/IV	236 (27.7%)	1 (20.0%)	2 (18.2%)	4 (19.0%)	35 (27.1%)	0 (0.0%)	
Unknown	195 (22.9%)	2 (40.0%)	4 (36.4%)	10 (47.6%)	33 (25.6%)	1 (33.3%)	
Type of surgery							< 0.001
None	62 (7.4%)	2 (40.0%)	2 (18.2%)	2 (9.5%)	24 (18.6%)	0 (0.0%)	
Lumpectomy	455 (54.0%)	2 (40.0%)	6 (54.5%)	8 (38.1%)	37 (28.7%)	1 (33.3%)	
Mastectomy	321 (38.1%)	1 (20.0%)	2 (18.2%)	11 (52.4%)	63 (48.8%)	2 (66.7%)	
Unknown	4 (0.5%)	0 (0.0%)	1 (9.1%)	0 (0.0%)	5 (3.9%)	0 (0.0%)	
Receptor subtype							
ER+	567 (68.6%)	5 (100.0%)	7 (63.6%)	18 (85.7%)	98 (76.0%)	1 (33.3%)	0.084
PR+	482 (58.4%)	4 (80.0%)	7 (63.6%)	15 (71.4%)	80 (62.0%)	1 (33.3%)	0.58
HER2+	129 (18.1%)	0 (0.0%)	1 (9.1%)	1 (4.8%)	28 (21.7%)	1 (33.3%)	0.33
HR+	578 (67.9%)	5 (100.0%)	7 (63.6%)	18 (85.7%)	98 (76.0%)	1 (33.3%)	0.067
TNBC	158 (22.2%)	0 (0.0%)	4 (36.4%)	3 (14.3%)	26 (20.2%)	1 (33.3%)	0.55
Comorbidities							
Diabetes Mellitus	237 (27.8%)	1 (20.0%)	2 (18.2%)	2 (9.5%)	19 (14.7%)	0 (0.0%)	0.012
Hypertension	322 (37.8%)	2 (40.0%)	5 (45.5%)	10 (47.6%)	58 (45.0%)	1 (33.3%)	0.65
Hyperlipidemia	212 (24.9%)	4 (80.0%)	6 (54.5%)	13 (61.9%)	60 (46.5%)	3 (100.0%)	< 0.001
Obesity	434 (51.0%)	5 (100.0%)	2 (18.2%)	5 (23.8%)	43 (33.3%)	0 (0.0%)	< 0.001
Coronary Artery Disease	36 (4.2%)	0 (0.0%)	1 (9.1%)	1 (4.8%)	5 (3.9%)	0 (0.0%)	0.96
Metabolic abnormalities	184 (21.6%)	2 (40.0%)	2 (18.2%)	4 (19.0%)	20 (15.5%)	0 (0.0%)	0.47
Any comorbidities	614 (72.2%)	5 (100.0%)	8 (72.7%)	16 (76.2%)	96 (74.4%)	3 (100.0%)	0.63
Number of comorbidities							0.76
0	237 (27.8%)	0 (0.0%)	3 (27.3%)	5 (23.8%)	33 (25.6%)	0 (0.0%)	
1	271 (31.8%)	1 (20.0%)	4 (36.4%)	7 (33.3%)	39 (30.2%)	2 (66.7%)	
2	159 (18.7%)	2 (40.0%)	2 (18.2%)	5 (23.8%)	37 (28.7%)	1 (33.3%)	
3	120 (14.1%)	1 (20.0%)	1 (9.1%)	3 (14.3%)	13 (10.1%)	0 (0.0%)	
4	64 (7.5%)	1 (20.0%)	1 (9.1%)	1 (4.8%)	7 (5.4%)	0 (0.0%)	

ER Estrogen Receptor, PR Progesterone receptor, HR Hormone Receptor, TNBC Triple-Negative Breast Cancer, HER2 human epidermal receptor 2 neu, SD standard deviation, NOS Not Otherwise Specified

	ER+*				PR+*			
	PR**	95% CI		p-value	PR**	95% CI		p-value
Non-Mexican	1.37	1.18	1.59	<0.001	1.38	1.14	1.67	0.001
Diabetes Mellitus	1.2	1	1.45	0.052	1.04	0.8	1.35	0.764
Hypertension	1.14	0.97	1.33	0.111	1.18	0.99	1.41	0.067
Obesity	1.05	0.9	1.21	0.542	0.99	0.84	1.18	0.938
Dyslipidemia	0.86	0.7	1.06	0.168	0.85	0.67	1.09	0.198
Diagnosis-IDC (reference)								
Lobular	1.37	1.14	1.65	0.001	1.47	1.19	1.81	<0.001
Lobular and Ductal	1.29	1.13	1.47	<0.001	1.4	1.16	1.69	<0.001
Other	0.89	0.59	1.35	0.594	0.57	0.28	1.18	0.129
Stage-Early (reference)								
Advanced stage	0.93	0.77	1.13	0.465	0.91	0.74	1.13	0.406
Stage Unknown	1.1	0.93	1.28	0.26	0.98	0.8	1.19	0.825
Surgery-None (reference)								
Lumpectomy	1.2	0.85	1.69	0.291	1.63	0.96	2.75	0.068
Mastectomy	1.15	0.82	1.6	0.429	1.55	0.92	2.61	0.097
Unknown	1.37	0.96	1.95	0.081	1.85	1.08	3.16	0.025
	HR+*				TNBC*			
Non-Mexicans	1.39	1.2	1.61	<0.001	0.43	0.21	0.87	0.019
Diabetes Mellitus	1.14	0.94	1.38	0.172	0.72	0.35	1.47	0.368
Hypertension	1.21	1.04	1.4	0.013	0.66	0.37	1.18	0.159
Obesity	1.02	0.89	1.18	0.742	1.25	0.82	1.91	0.303
Dyslipidemia	0.86	0.7	1.06	0.155	1.55	0.91	2.64	0.109
Diagnosis-IDC (reference)								
Lobular	1.37	1.15	1.64	<0.001	1.54	0.65	3.65	0.328
Lobular and Ductal	1.26	1.09	1.46	0.002				
Other	0.77	0.49	1.19	0.234				
Stage-Early (reference)								
Advanced	0.96	0.8	1.15	0.671	0.89	0.57	1.41	0.624
Unknown	1.04	0.89	1.22	0.618	1.03	0.61	1.73	0.913
Surgery-None (reference)								
Lumpectomy	1.2	0.85	1.7	0.292	0.45	0.23	0.89	0.021
Mastectomy	1.11	0.79	1.56	0.534	0.55	0.29	1.05	0.069
Unknown	1.29	0.9	1.84	0.169				

* ER Estrogen Receptor, PR Progesterone receptor, HR Hormone Receptor, TNBC Triple Negative Breast Cancer; CI: confidence interval, CI confidence interval, IDC invasive ductal carcinoma,** PR Prevalence ratio

Supplementary Table S5. Association of metabolic syndrome with tumor subtypes by Hispanic subgroups.

ER*	Mexican Hispanics				Non-Mexican Hispanics			
	PR**	95%CI		p-value	PR**	95%CI		p-value
Metabolic syndrome	1.12	1.02	1.24	0.023	1.13	0.91	1.40	0.28
Postmenopausal	1.05	0.94	1.17	0.385	0.77	0.66	0.90	0.001
Lobular	1.45	1.34	1.57	0	1.08	0.85	1.37	0.536
Mixed	1.10	0.76	1.61	0.608	1.11	0.82	1.50	0.489
Unknown	1.09	0.90	1.32	0.376	1.00	0.72	1.39	0.999
Advanced stage	0.85	0.74	0.97	0.016	0.93	0.76	1.13	0.439
Unknown	1.06	0.96	1.18	0.246	0.86	0.70	1.06	0.159
Lumpectomy	1.15	0.93	1.44	0.203	0.99	0.75	1.31	0.948
Mastectomy	1.04	0.84	1.31	0.7	1.10	0.85	1.41	0.479
Unknown	1.12	0.48	2.64	0.793	0.89	0.51	1.56	0.694
PR*	Mexican Hispanics				Non-Mexican Hispanics			
Metabolic syndrome	1.21	1.06	1.37	0.004	1.21	0.92	1.60	0.174
Postmenopausal	0.94	0.83	1.07	0.378	0.69	0.55	0.86	0.001
Lobular	1.50	1.31	1.73	0	0.99	0.69	1.41	0.957
Mixed	1.31	0.90	1.90	0.156	1.03	0.66	1.62	0.89
Unknown	1.13	0.89	1.43	0.317	0.77	0.41	1.46	0.426
Advanced stage	0.85	0.73	0.99	0.042	0.96	0.72	1.27	0.776
Unknown	1.02	0.89	1.17	0.747	0.92	0.70	1.20	0.538
Lumpectomy	1.12	0.86	1.46	0.389	1.01	0.67	1.54	0.952
Mastectomy	1.03	0.79	1.34	0.823	1.21	0.83	1.76	0.312
Unknown	1.37	0.57	3.29	0.482	1.12	0.61	2.08	0.711
HR*	Mexican Hispanics				Non-Mexican Hispanics			
Metabolic syndrome	1.13	1.02	1.25	0.02	1.13	0.91	1.40	0.28
Postmenopausal	1.03	0.93	1.15	0.535	0.77	0.66	0.90	0.001
Lobular	1.38	1.25	1.52	0	1.08	0.85	1.37	0.536
Mixed	0.99	0.63	1.54	0.951	1.11	0.82	1.50	0.489
Unknown	0.97	0.78	1.19	0.745	1.00	0.72	1.39	0.999
Advanced stage	0.86	0.76	0.98	0.028	0.93	0.76	1.13	0.439
Unknown	1.02	0.92	1.14	0.668	0.86	0.70	1.06	0.159
Lumpectomy	1.10	0.89	1.36	0.382	0.99	0.75	1.31	0.948
Mastectomy	1.00	0.81	1.23	0.977	1.10	0.85	1.41	0.479
Unknown	0.84	0.31	2.25	0.722	0.89	0.51	1.56	0.694
TNBC*	Mexican Hispanics				Non-Mexican Hispanics			
Metabolic syndrome	0.93	0.64	1.35	0.693	0.79	0.33	1.94	0.611
Postmenopausal	0.75	0.56	1.00	0.054	2.17	1.07	4.39	0.031
Lobular	0.09	0.01	0.65	0.017	0.79	0.33	1.89	0.596
Mixed	0.75	0.13	4.47	0.756	0.95	0.24	3.79	0.946
Unknown	0.81	0.44	1.52	0.519	1.05	0.25	4.46	0.947

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