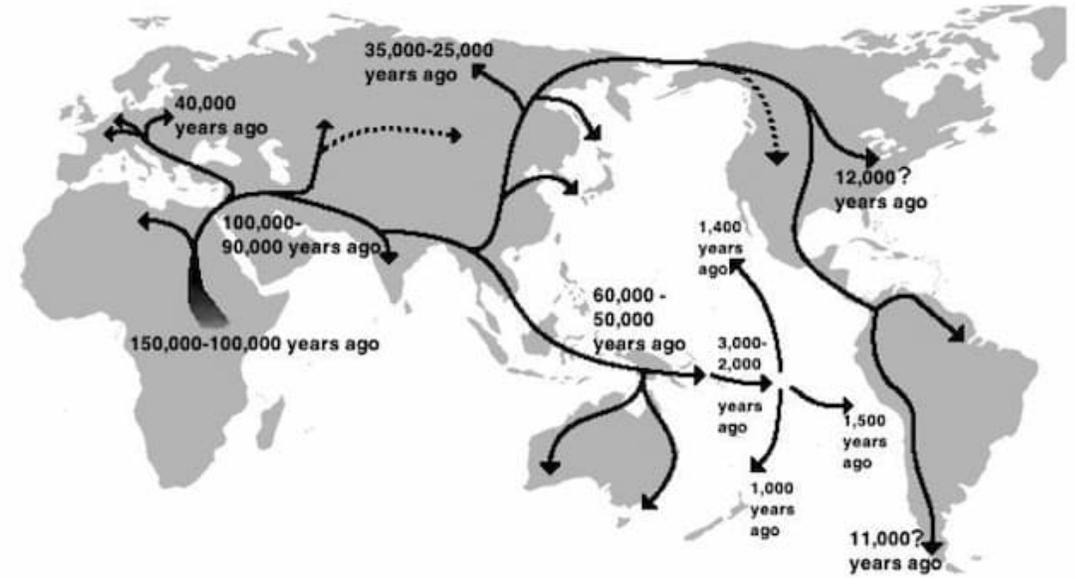
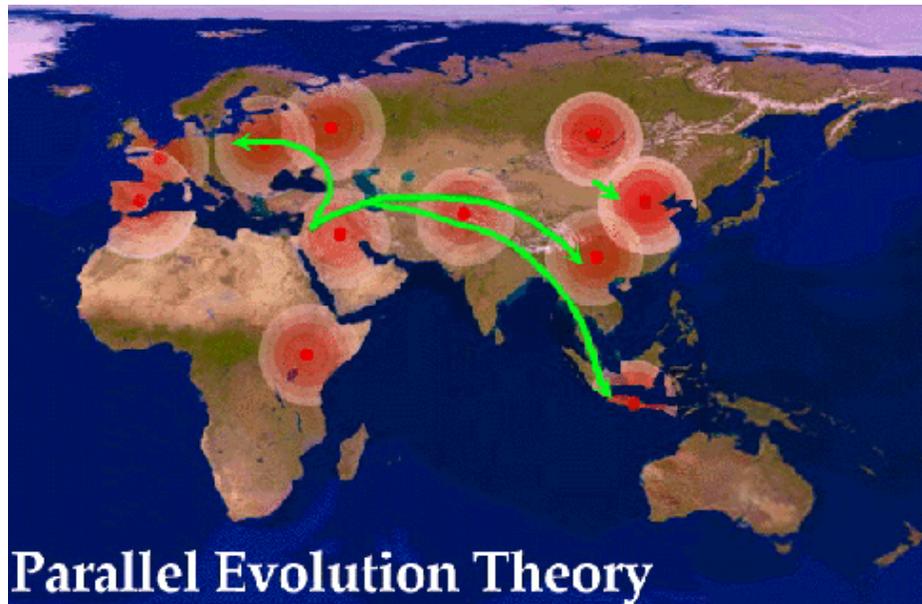
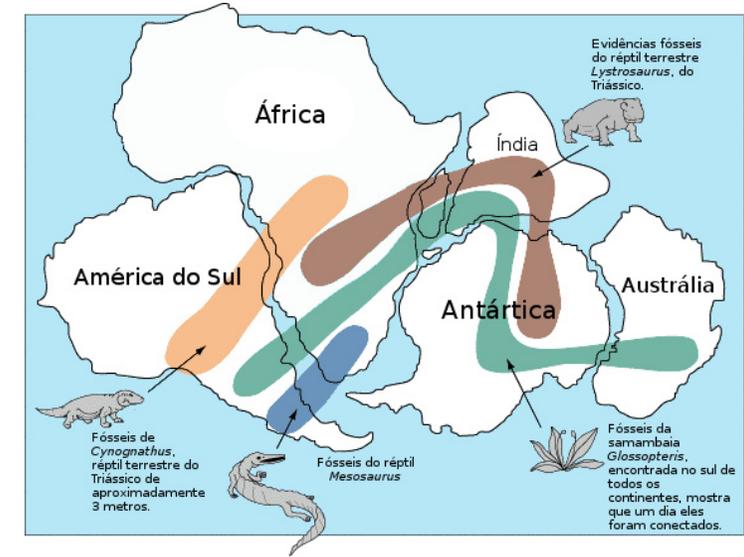
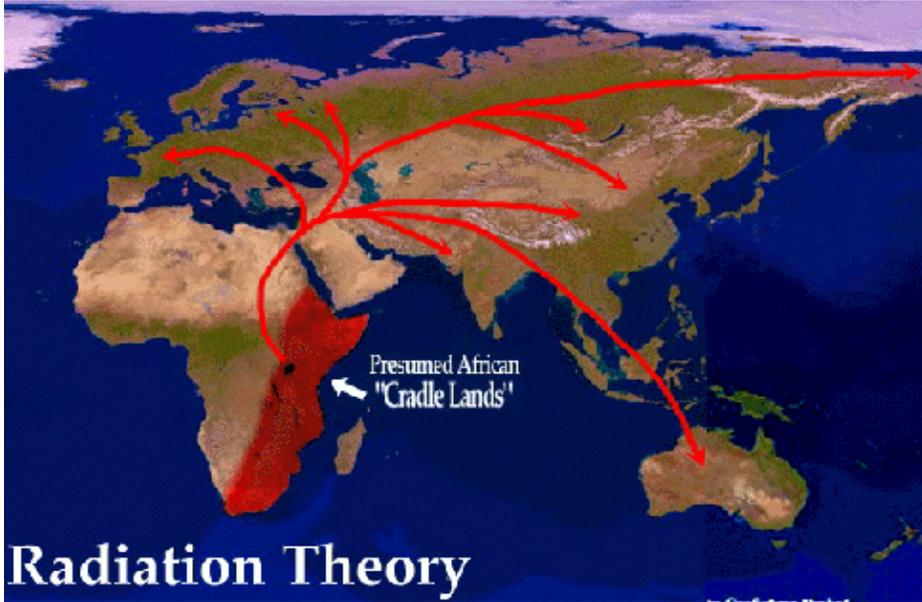
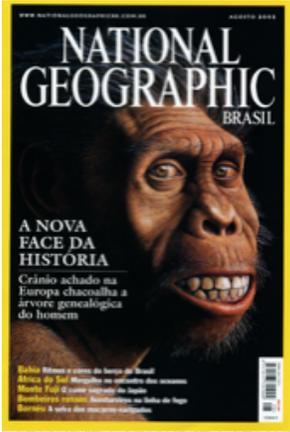


Ancestralidade e Câncer de Mama no Brasil

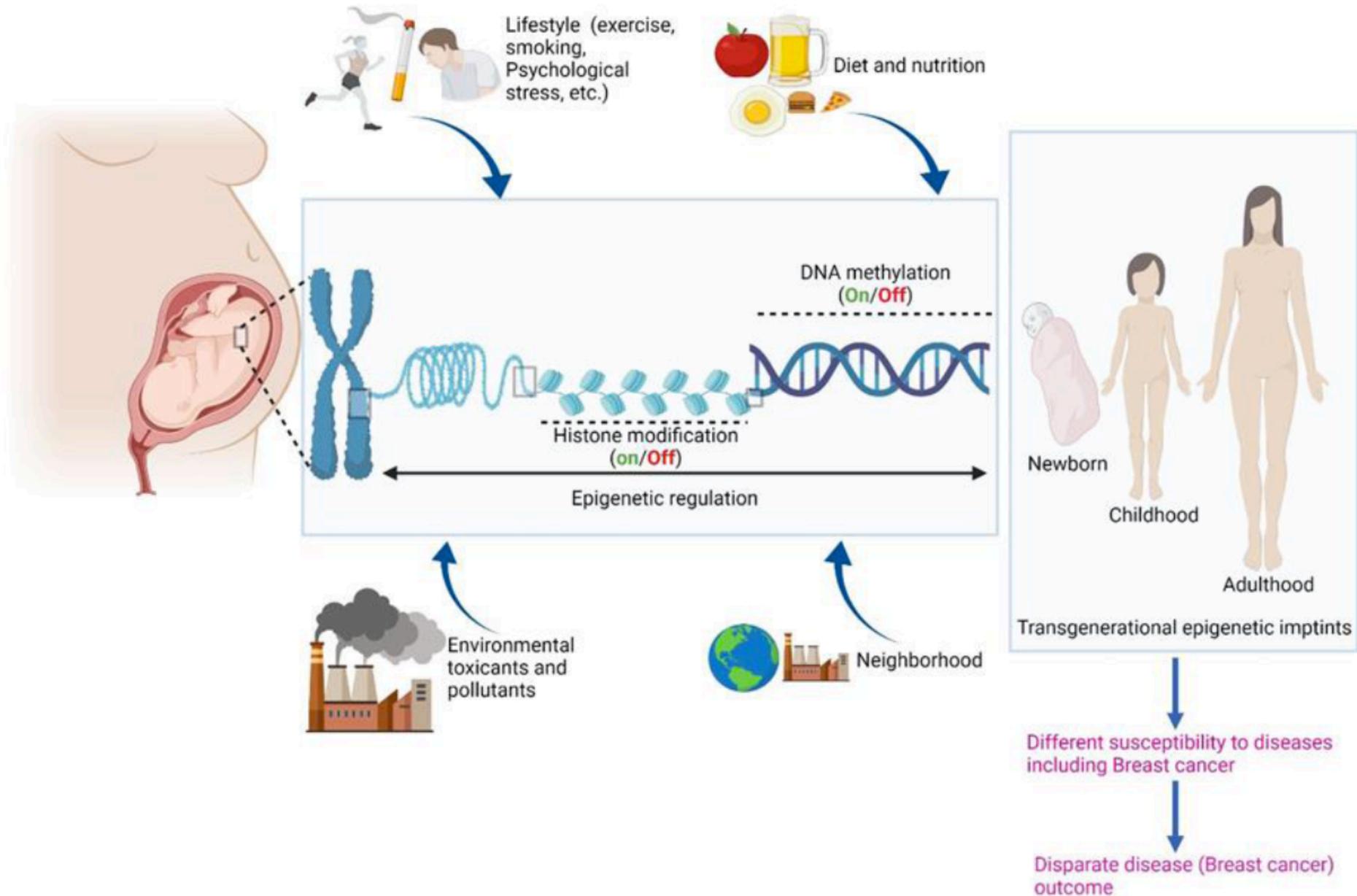


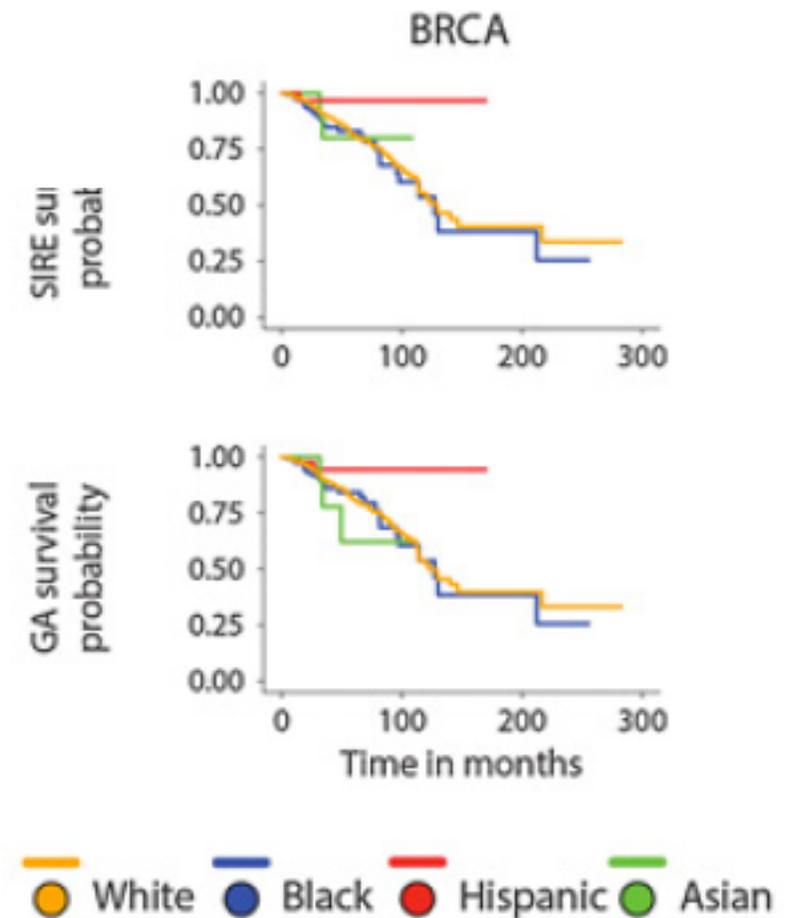
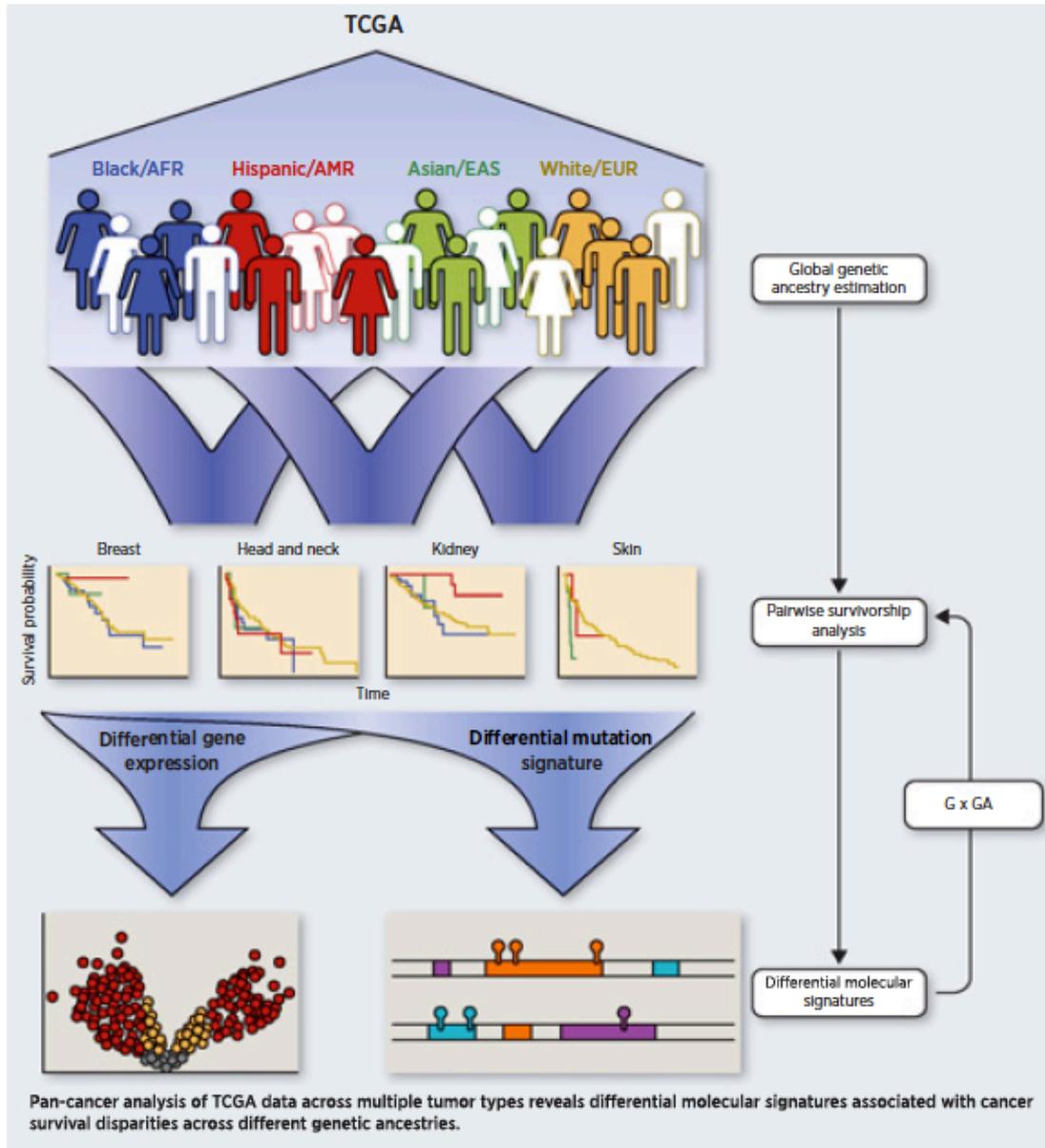


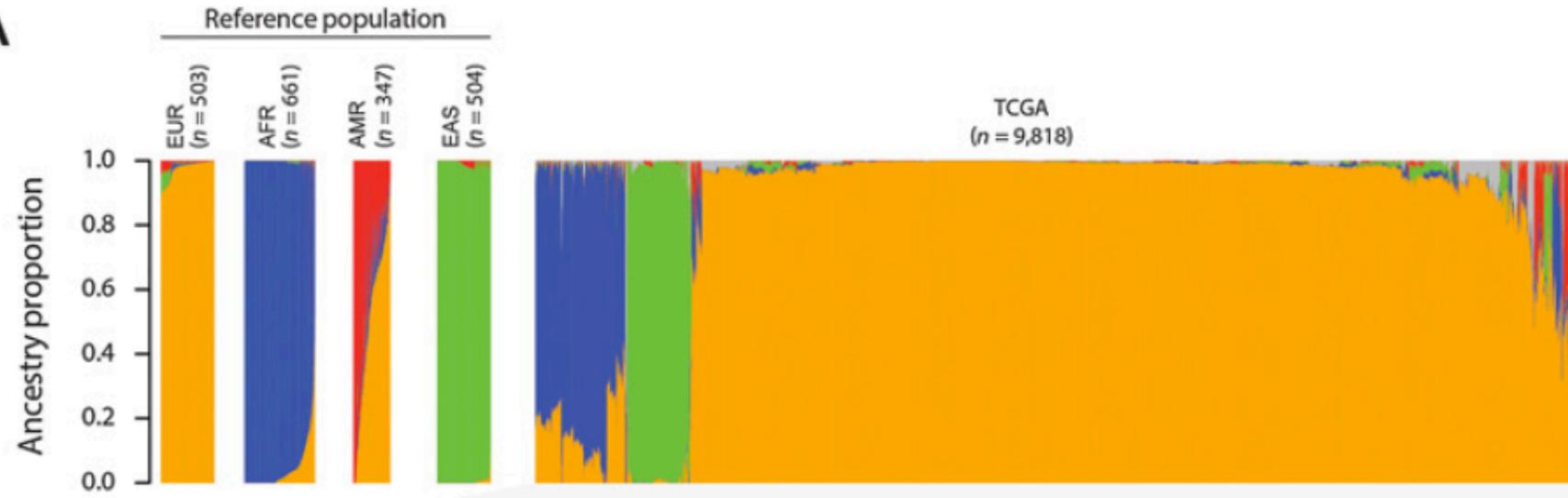
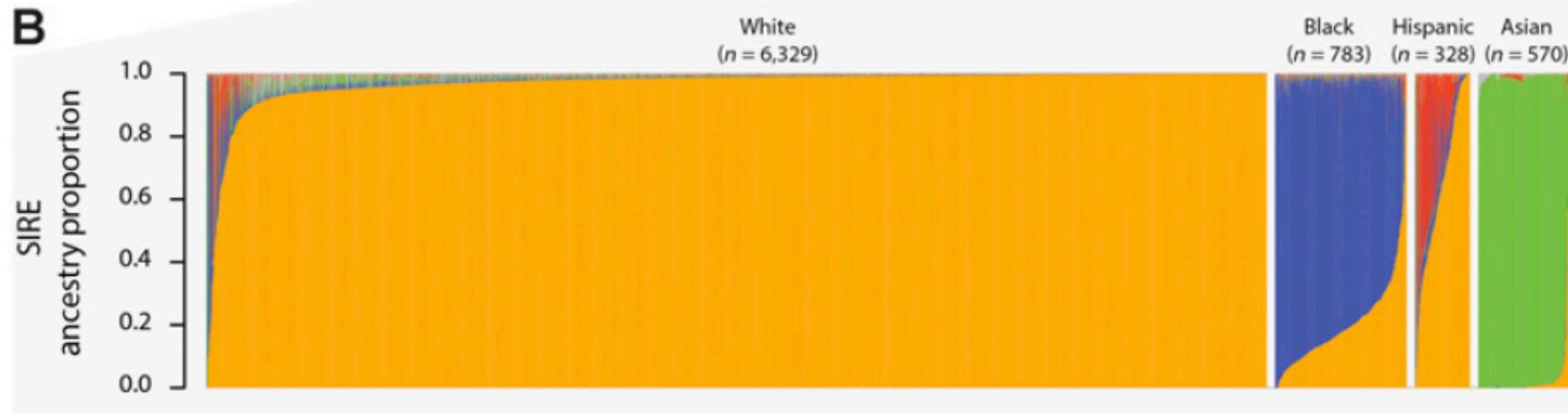
Mudanças do Século XX-XXI

- Mudança do padrão de doenças e mortalidade
- Globalização
- Acentuação das diferenças econômicas e sociais

- Doenças infecciosas para Doenças cardiovasculares e câncer
- Elevação na terapêutica do câncer
- Melhor entendimento dos fatores associados ao câncer
- Desenvolvimento da genômica e aplicação ao câncer





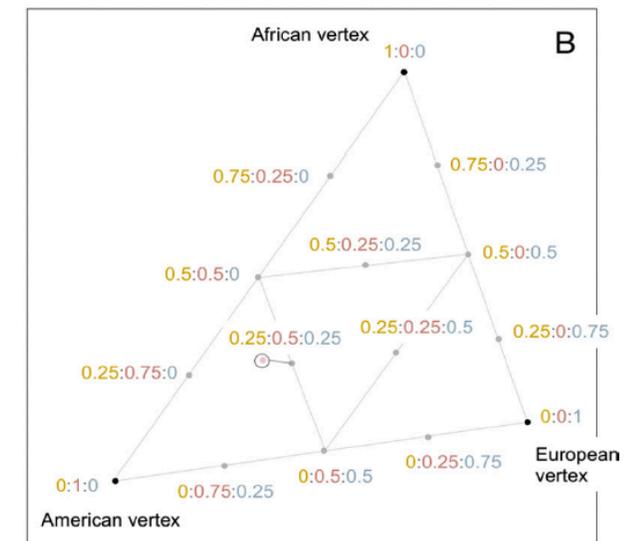
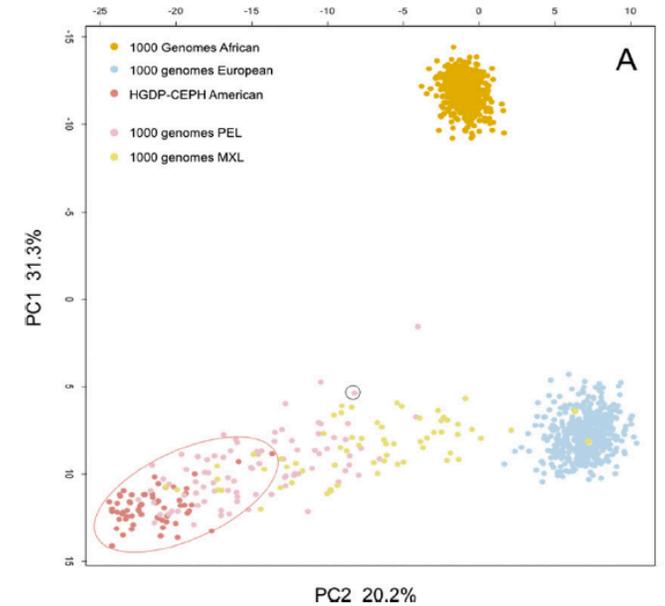
A**B**

Raça é diferente de ancestralidade!

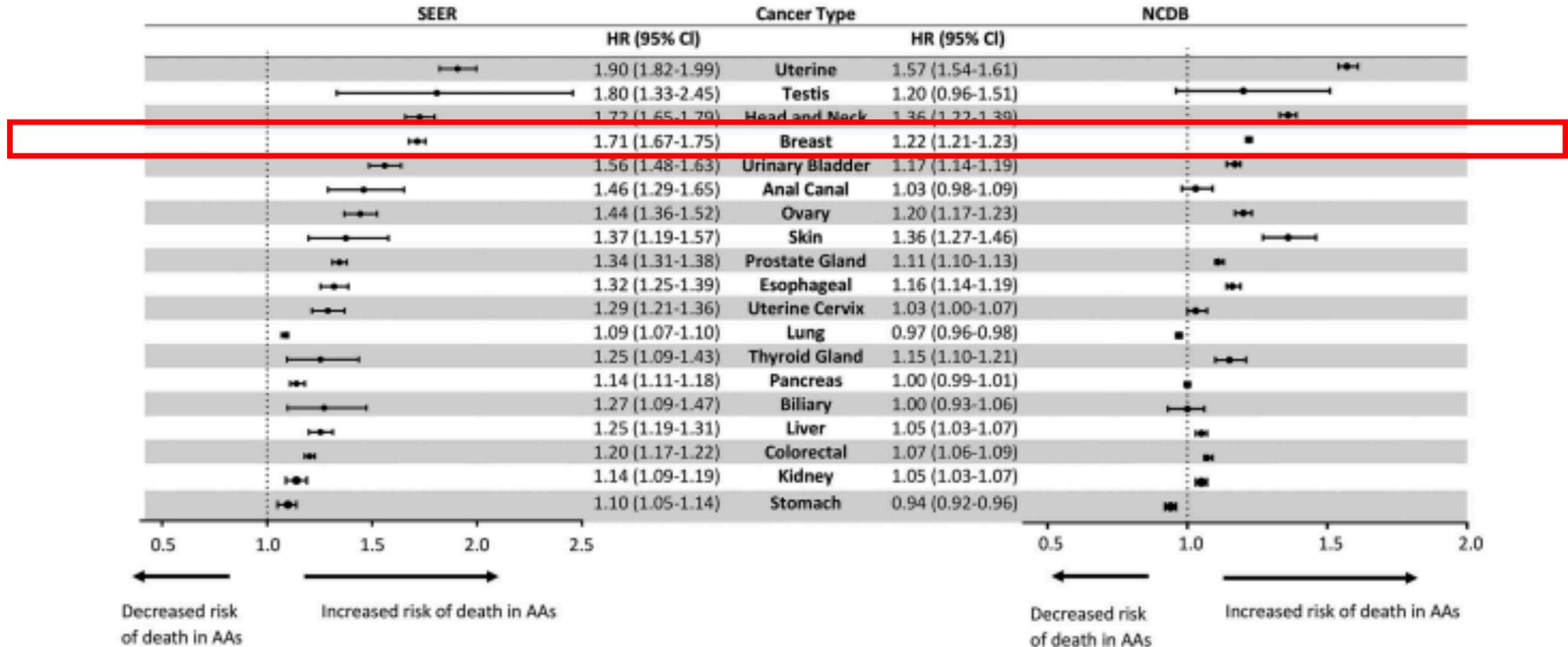


Forensic genetic analysis of bio-geographical ancestry

- Análise dos componentes principais
- Marcadores de Ancestralidade
 - AIMs (ancestry informative Markers):
 - ✓ Indels (Small insertion-deletion)
 - ✓ STR autossômicos (sequencias repetidas de DNA)
 - ✓ Múltiplos SNPs (single nucleotide polymorfisms)



Pan-Cancer Clinical and Molecular Analysis of Racial Disparities



Câncer de Mama - Mundo

- Fatores de risco
 - Genéticos
 - Extrinsecos
 - Idade
- Diferenças Mundiais
 - Incidência/ Mortalidade
 - Estadiamento
- Estratégias de rastreamento
 - Mamografia (idade)
 - Estádio Clínico ao diagnóstico
 - Renda/ Raça

Câncer de Mama - Mundo

- Fatores de risco

- Genéticos
- Extrinsecos
- Idade

- Diferenças Mundiais

- Incidência/ Mortalidade
- Estadiamento

- Subtipo molecular

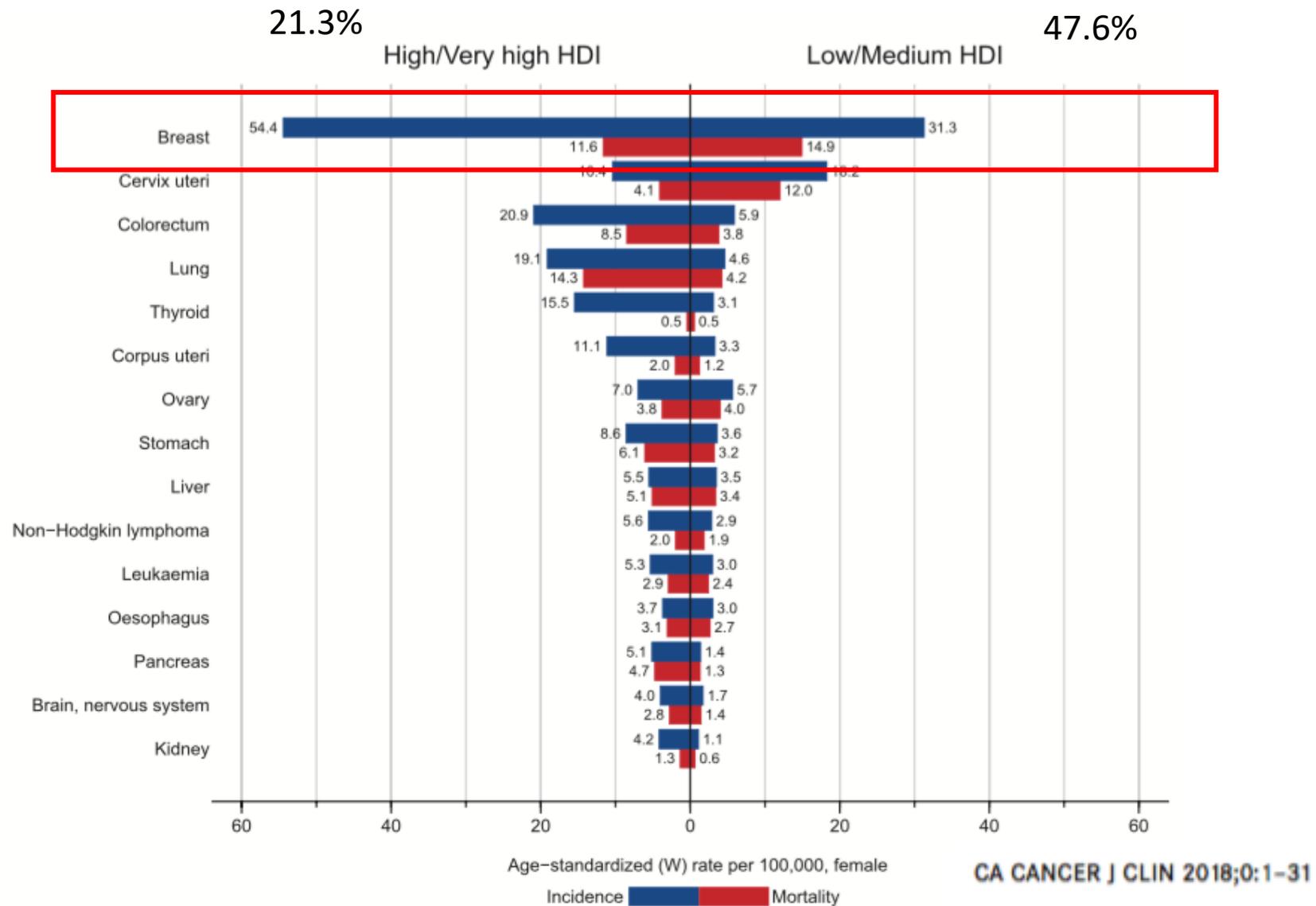
- Tipo de tratamento
- Resposta ao tratamento
- Idade
- Raça

- Estratégias de rastreamento

- Mamografia (idade)
- Estádio Clínico ao diagnóstico
- Renda/ Raça

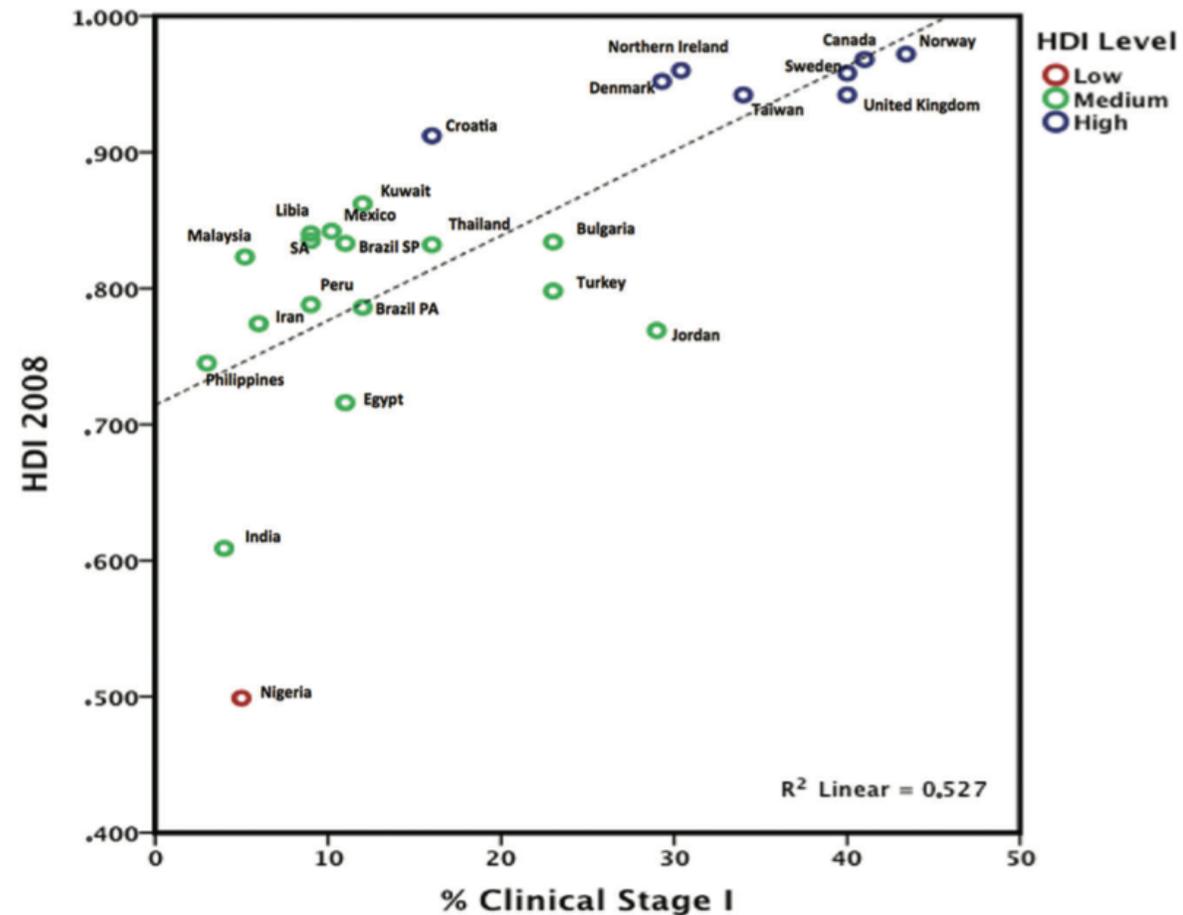
- Raça x Ancestralidade

Relação Incidência/ Mortalidade



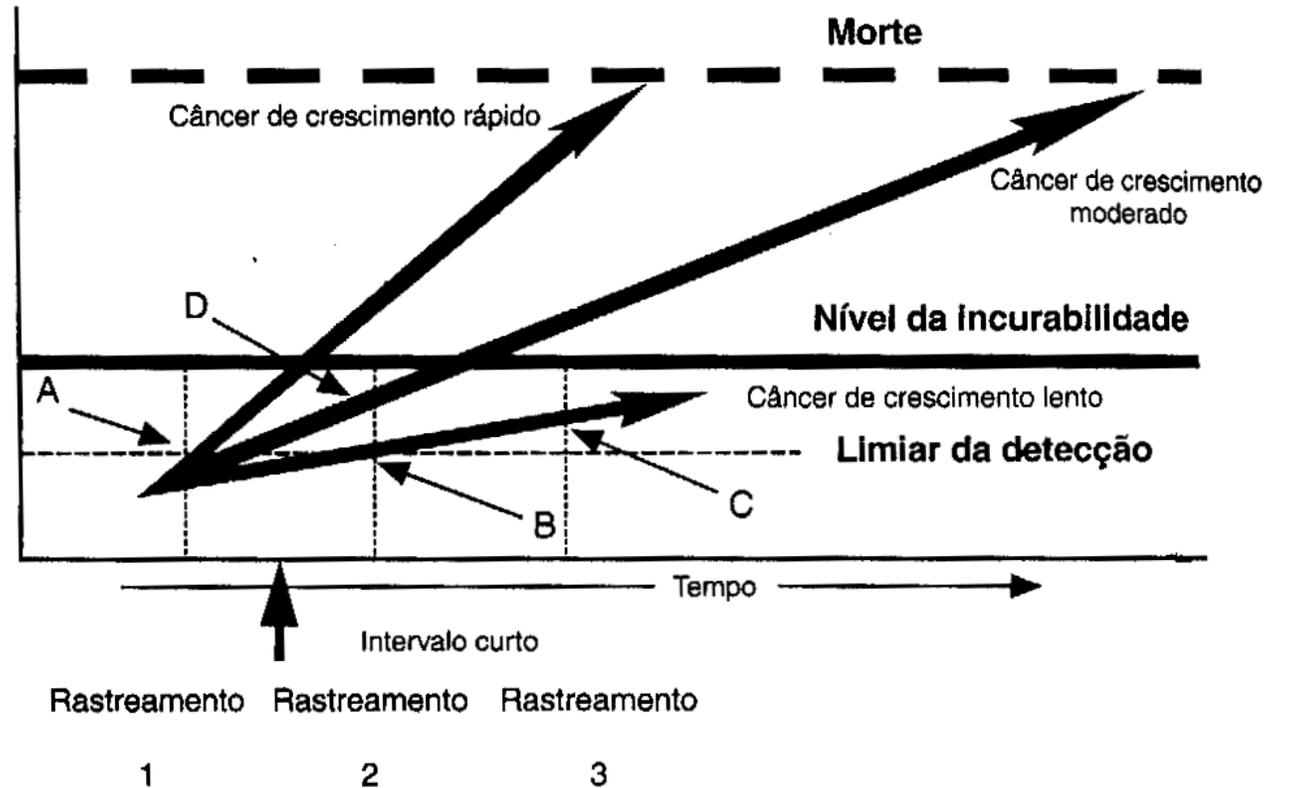
Breast cancer screening in developing countries

René Aloísio da Costa Vieira,^{I,II,*} Gabriele Biller,^I Gilberto Uemura,^{II} Carlos Alberto Ruiz,^{III}
 Maria Paula Curado^{IV}



Rastreamento mamográfico

- Idade definida
- Regularidade de exames
- Comportamento biológico
- Biologia do Tumor!



Câncer de Mama x Raça

- Diferenças mundiais
 - Idade do diagnóstico
 - Subtipo molecular
 - Estratégias de rastreamento/ diagnóstico
 - Diferenças socioeconômicas
 - Acesso aos serviços de saúde
 - Diagnóstico ou tratamento
 - Diferenças na sobrevida
-
- Raça
 - Ancestralidade

Etnia (raça) x Ancestralidade

Health and Racial Disparity in Breast Cancer

Adv Exp Med Biol. 2019 ; 1152: 31–49.

Differences in Breast Cancer Stage at Diagnosis and Cancer-Specific Survival by Race and Ethnicity in the United States

JAMA. 2015;313(2):165-173. doi:10.1001/jama.2014.17322

Breast cancer disparities in outcomes; unmasking biological determinants associated with racial and genetic diversity

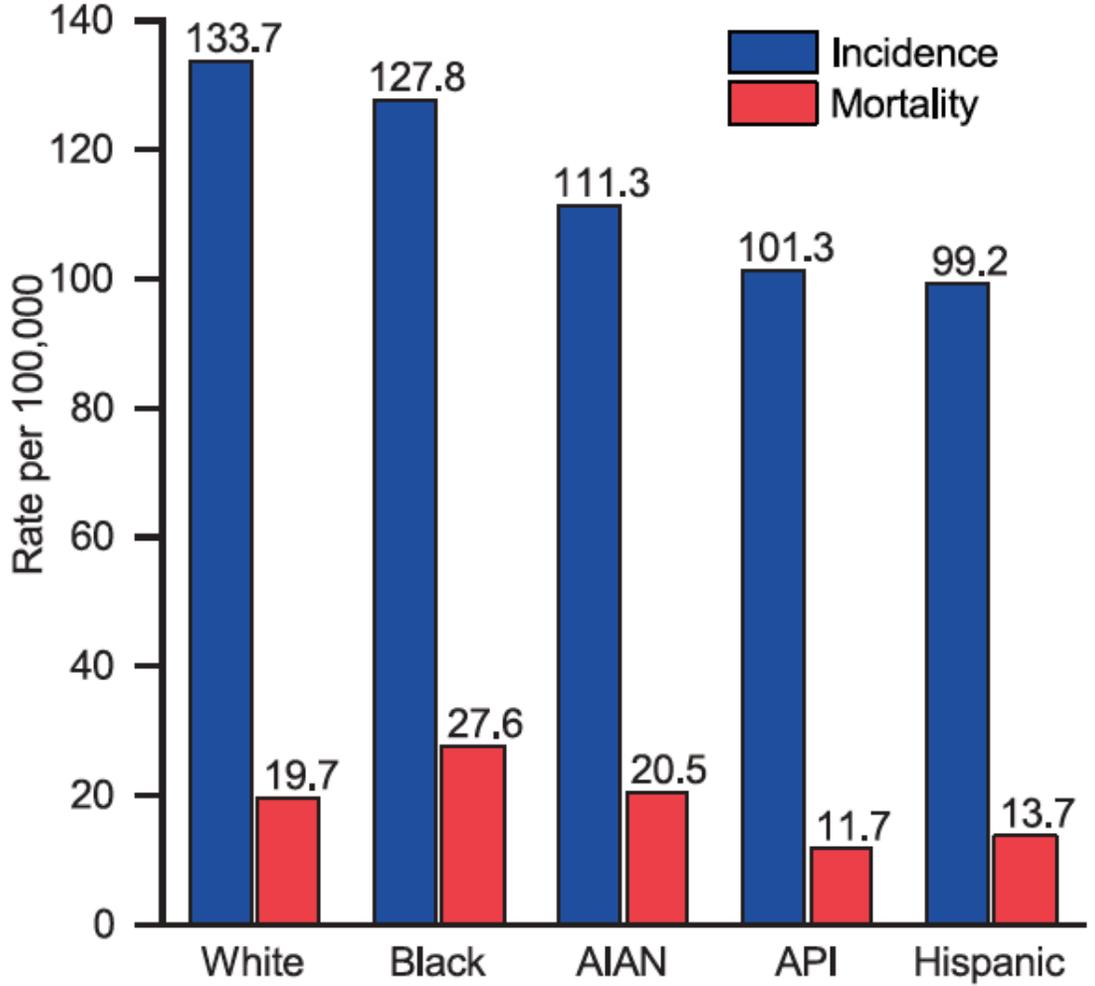
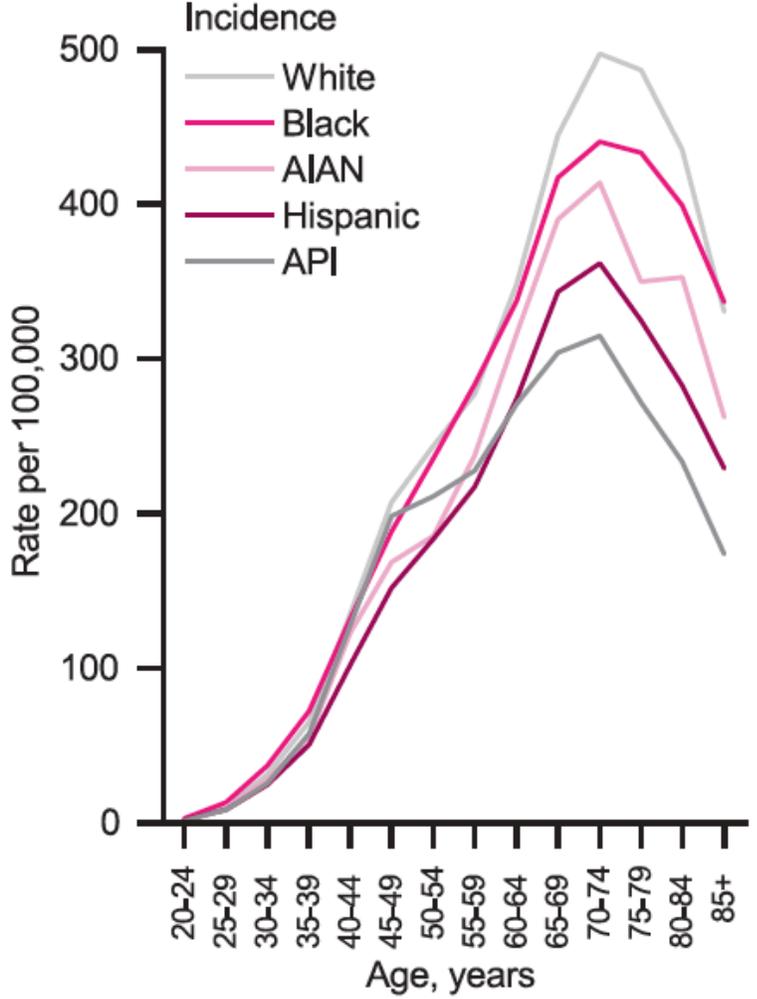
Clin Exp Metastasis. 2022 February ; 39(1): 7–14.

The Influence of Socioeconomic Disparities on Breast Cancer Tumor Biology and Prognosis: A Review

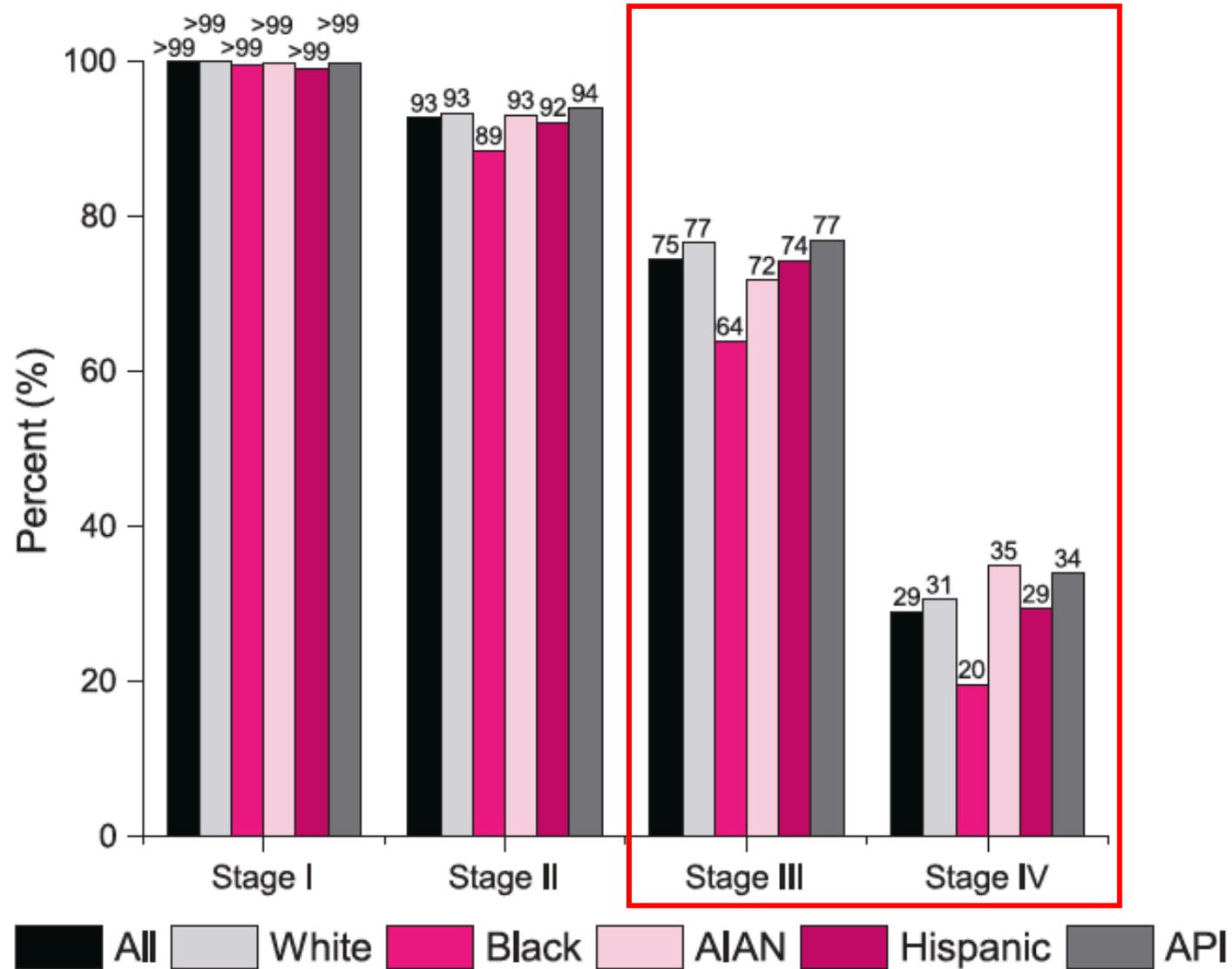
TABLE 1. EPIDEMIOLOGICAL FACTORS INFLUENCING ESTROGEN RECEPTOR (ER) STATUS

<i>ER-negative</i>	<i>ER-positive</i>
Young age, premenopausal ^{18,19}	Postmenopausal, increasing with age since menopause ^{18,19}
African American ^{1-4,21,26,31,32,40}	White (comparison with African American and Hispanic women)
Hispanic ^{4,21,28,30,31,40}	Affluent ^{14,15,20}
Low socioeconomic status ^{14,15,20,34}	Obesity, postmenopausal ^{37,45}
Obesity, especially with younger age, premenopausal ³⁵	Smaller tumors, low histological grade, ¹⁹ longer free and overall survival rates ^{17,18}
Large, high-grade tumors ^{19,26,32,34} and poor prognosis ^{17,18,35}	
Smoking ⁹¹	

Breast Cancer Statistics, 2022

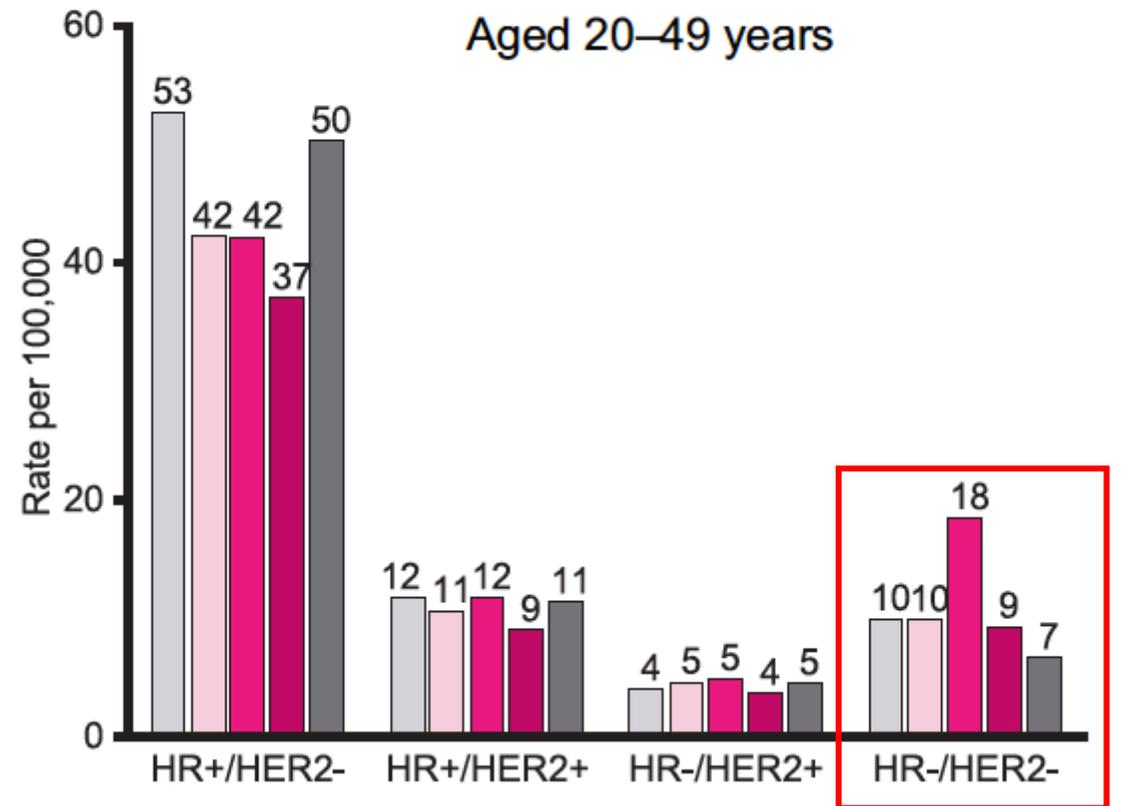
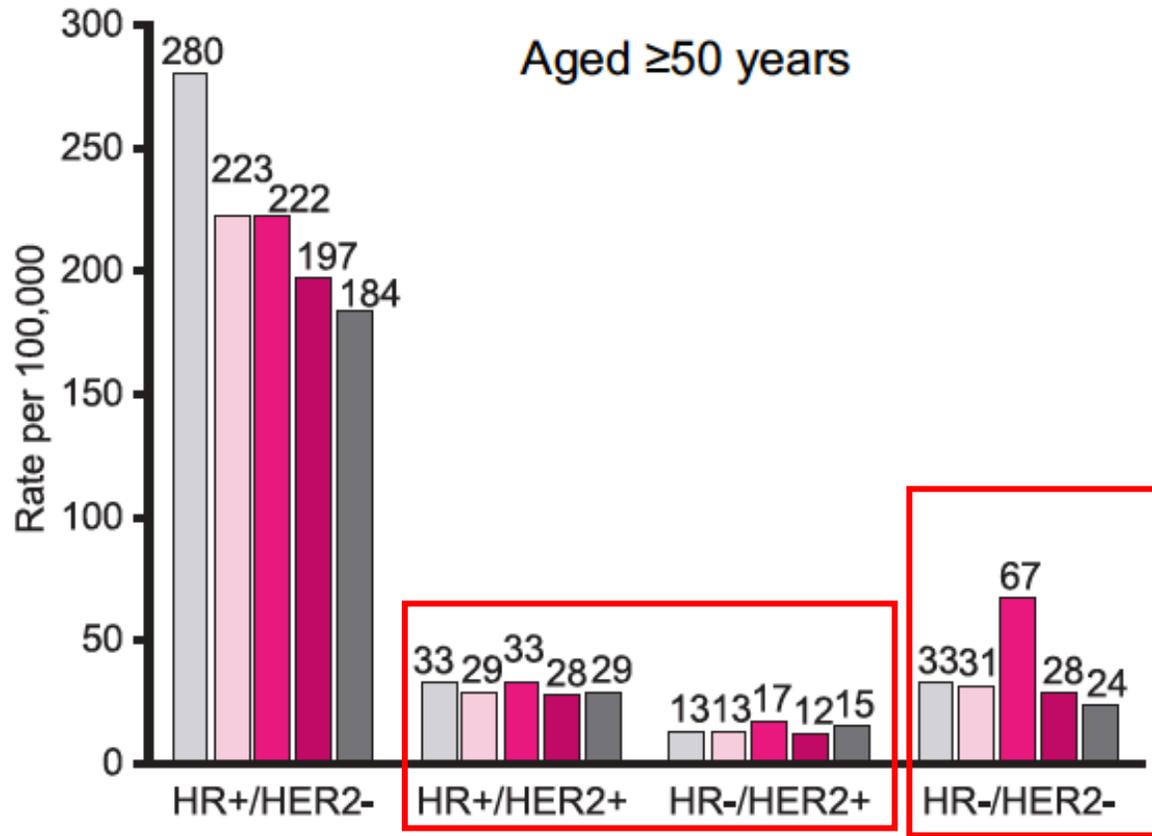


Relação I/M: 14,7 25,6 18,1 11,5 13,8



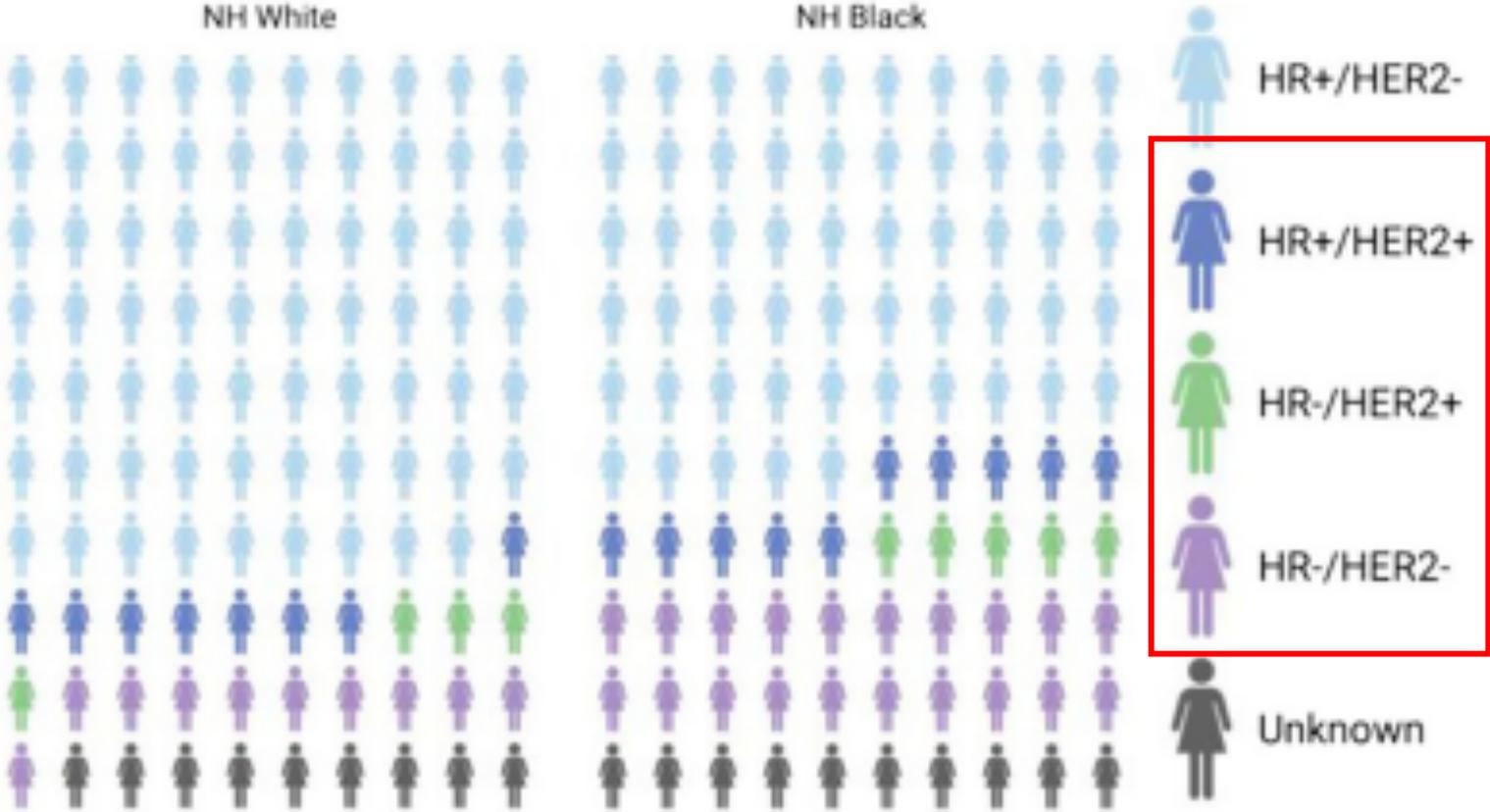
Five-year breast cancer relative survival rates (%) by stage at diagnosis and race/ethnicity, United States, 2012-2018

Incidência/100.00 habitantes por Subtipo molecular: EUA



White
 AIAN
 Black
 Hispanic
 API

Breast cancer disparities in outcomes; unmasking biological determinants associated with racial and genetic diversity



Race and Ethnicity-Adjusted Age Recommendation for Initiating Breast Cancer Screening

Table. Race and Ethnicity-Adapted Starting Age of Breast Cancer Screening

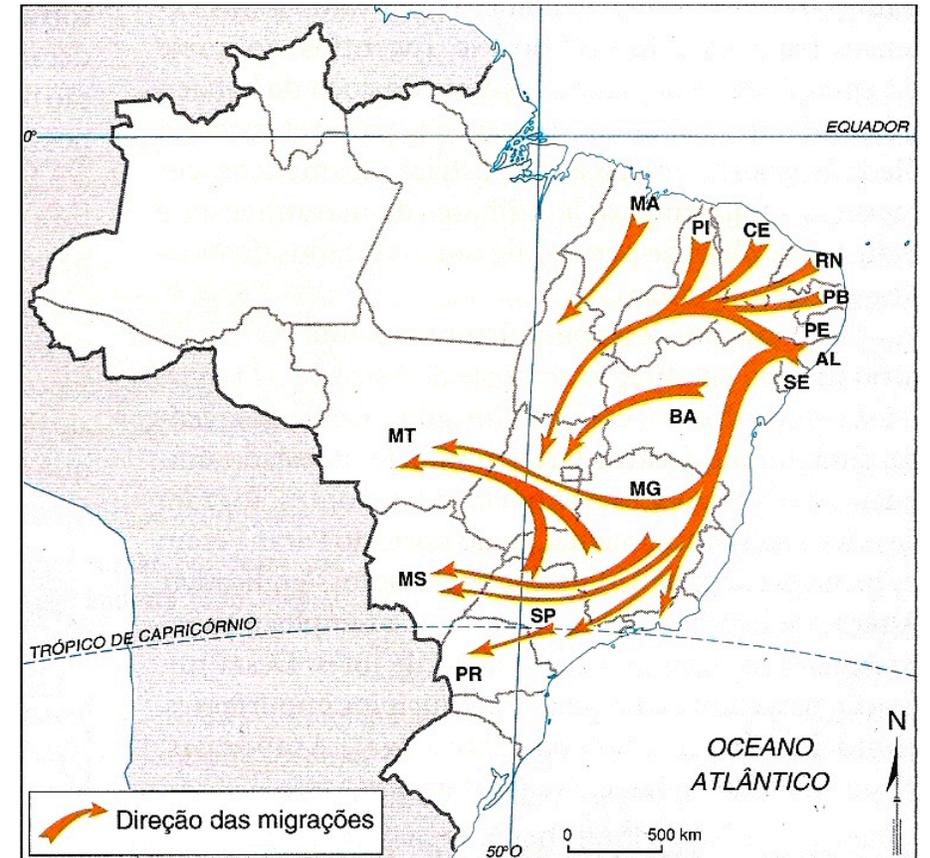
Ethnicity	Race	Starting age of screening, y		
All	Entire US population	40	45	50
Hispanic	Any	43	49	57
Not Hispanic	American Indian or Alaska Native	44	51	57
	Asian or Pacific Islander	44	50	61
	Black	34	38	42 ^a
	White	41	46	51
Population risk level, %	NA	0.154	0.235	0.329

Brasil

- Indígenas
- Descobrimento: Migração Europeia
- Escravidão: Migração Negra/ Nordeste
- Industrialização: Migração Europeia/Asiática – Sul e Sudeste



- Ancestralidade: Europeia, Africana, Ameríndia, Amarela
- Missigenação





Desigualdades Sociais por Cor ou Raça no Brasil

2ª edição

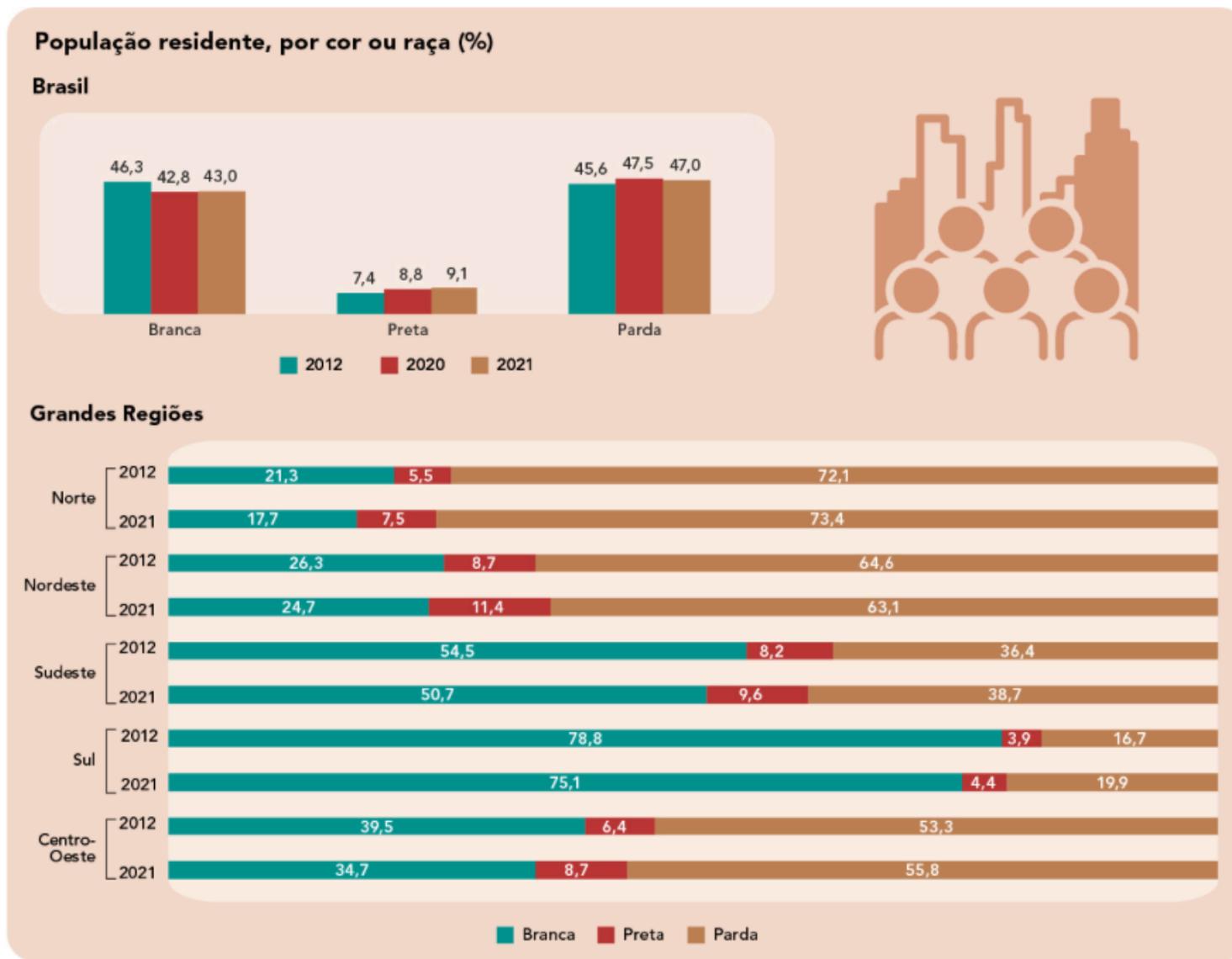


ISBN 978-85-240-4547-9
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IBGE: PNAD 2021

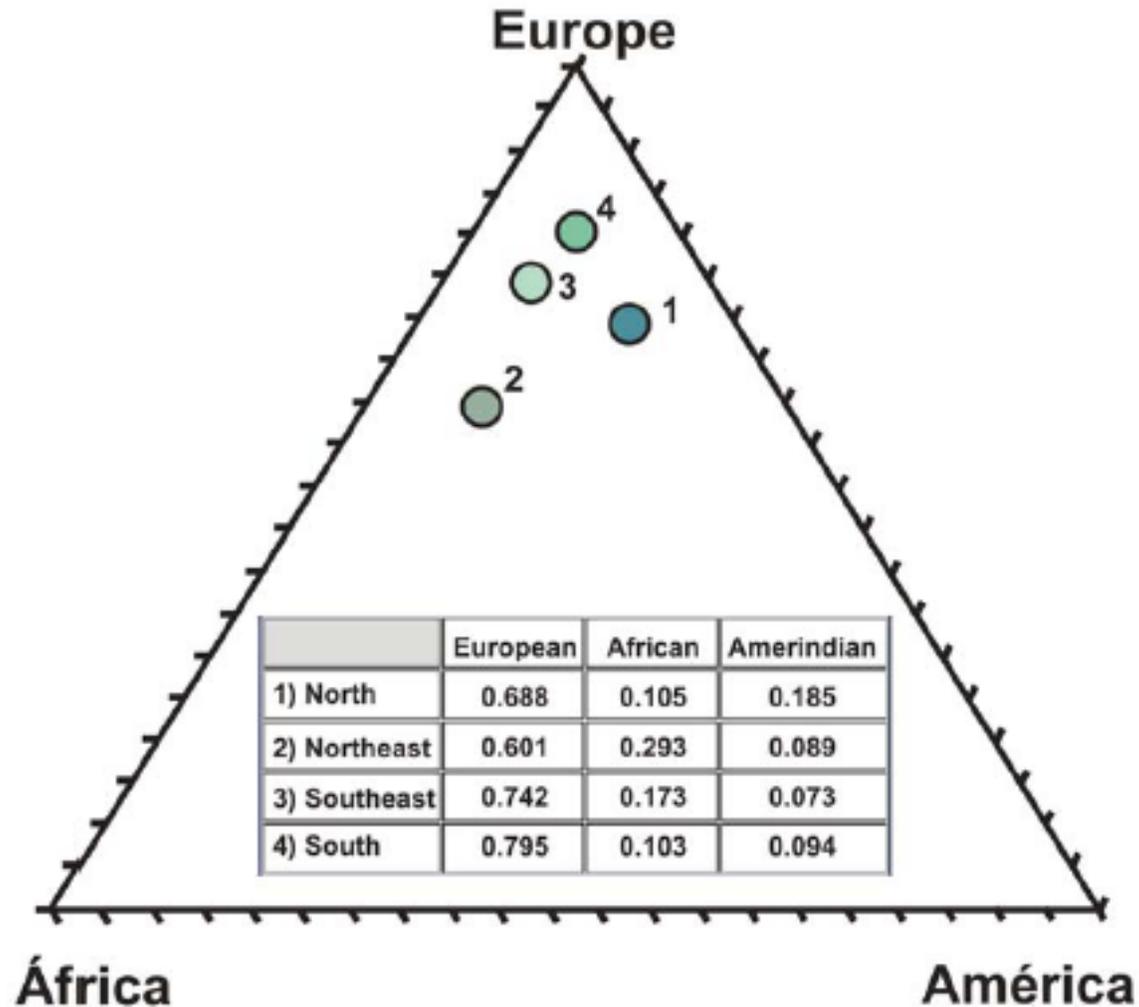
Raças Principais

- 43% Branco
- 47% Pardo
- 9,1% Negro
- 0,9% Outros



Fonte: IBGE, Diretoria de Pesquisas, Coordenação de Pesquisas por Amostra de Domicílios, Pesquisa Nacional por Amostra de Domicílios Contínua 2012/2021.
Nota: Para 2012, acumulado de primeiras visitas. Para 2021, acumulado de quintas visitas.

The Genomic Ancestry of Individuals from Different Geographical Regions of Brazil Is More Uniform Than Expected



Câncer de Mama - Brasil

- Fatores de risco
 - Genéticos
 - Extrinsecos
 - Idade
- Diferenças Regionais
 - Incidência/ Mortalidade
 - Estadiamento
- Estratégias de rastreamento
 - Mamografia (idade)
 - Estádio Clínico ao diagnóstico
 - Renda/ Raça

Câncer de Mama - Brasil

- Fatores de risco

- Genéticos
- Extrinsecos
- Idade

- Diferenças Mundiais

- Incidência/ Mortalidade
- Estadiamento

- Subtipo molecular

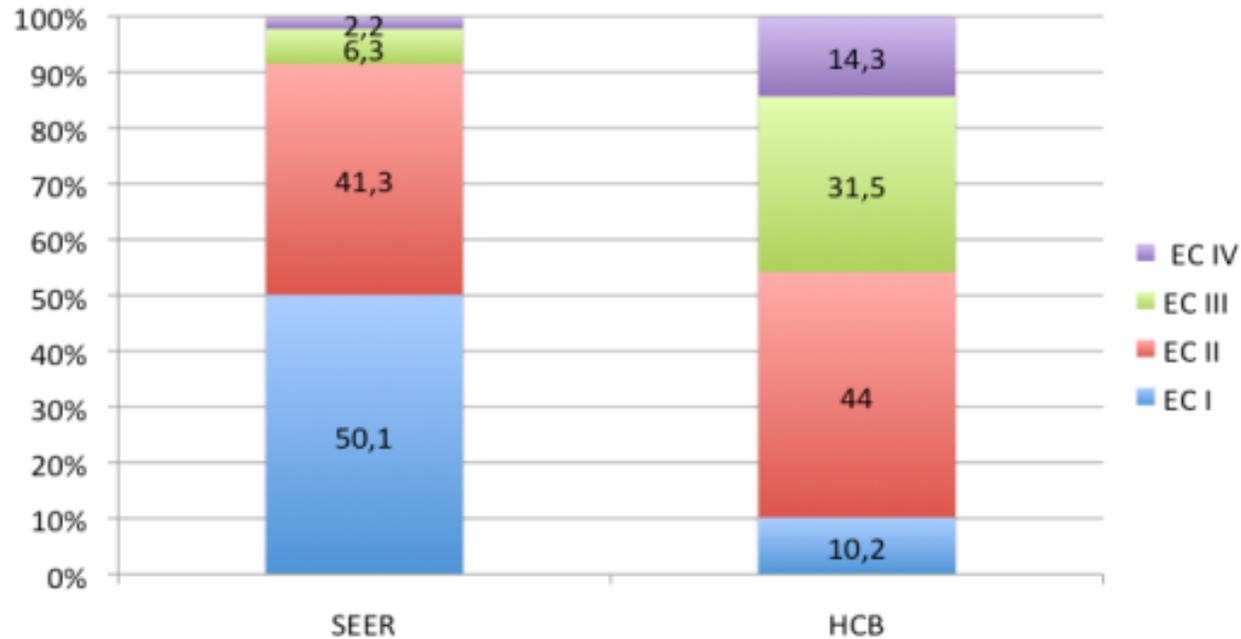
- Tipo de tratamento
- Resposta ao tratamento
- Idade
- Raça

- Estratégias de rastreamento

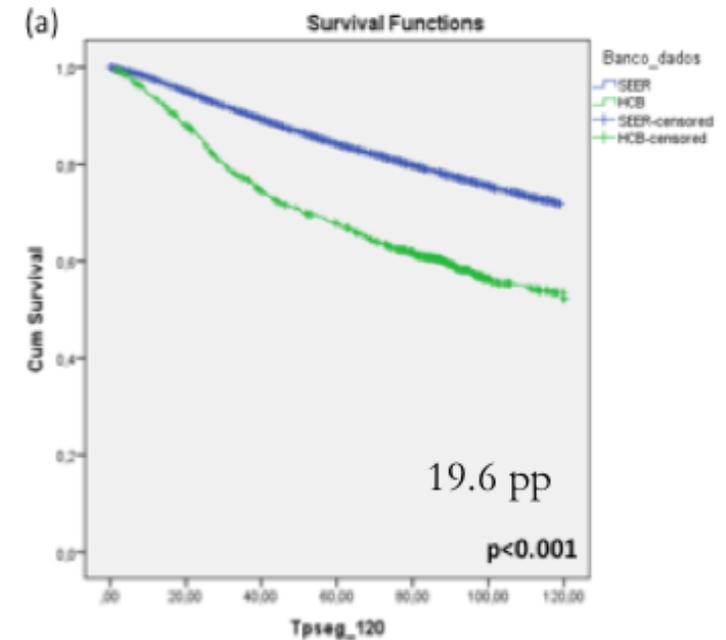
- Mamografia (idade)
- Estádio Clínico ao diagnóstico
- Renda/ Raça

- Raça x Ancestralidade

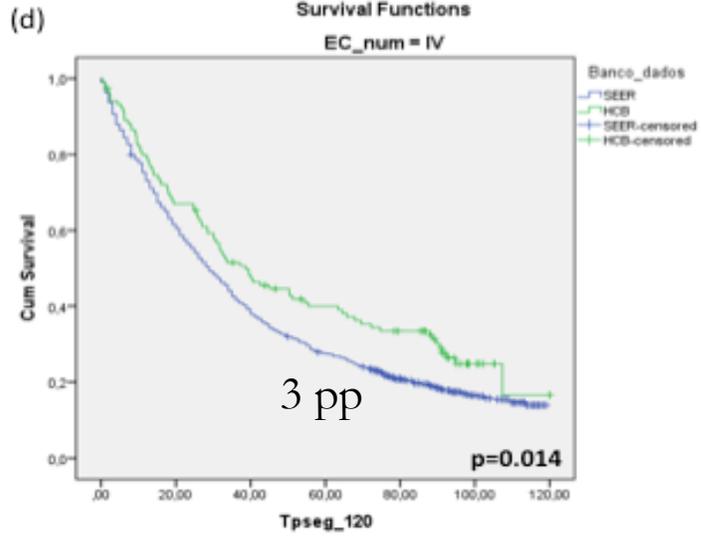
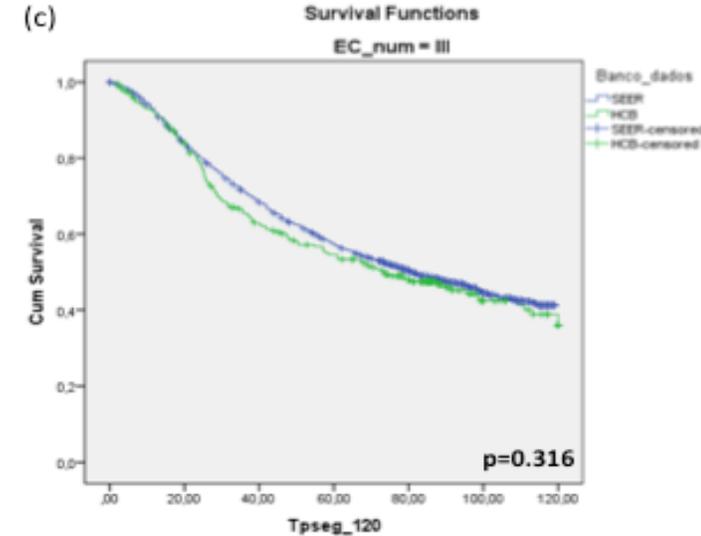
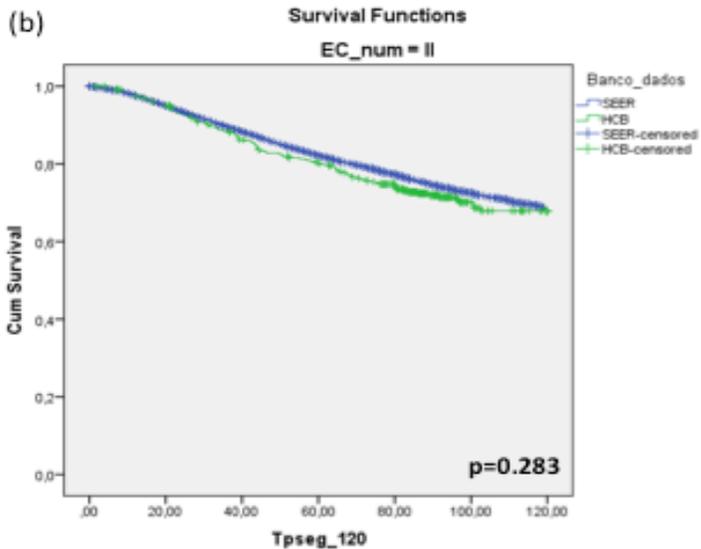
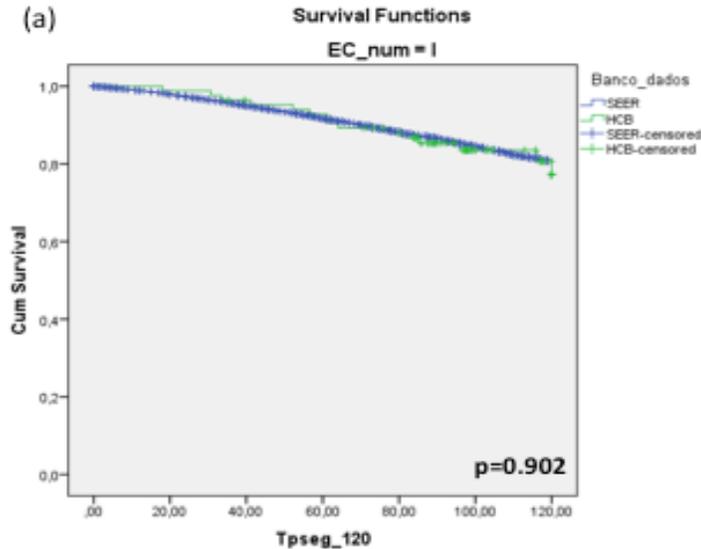
Evaluating Breast Cancer Health System Between Countries: The Use of USA/SEER and Brazilian Women as a Cohort Sample



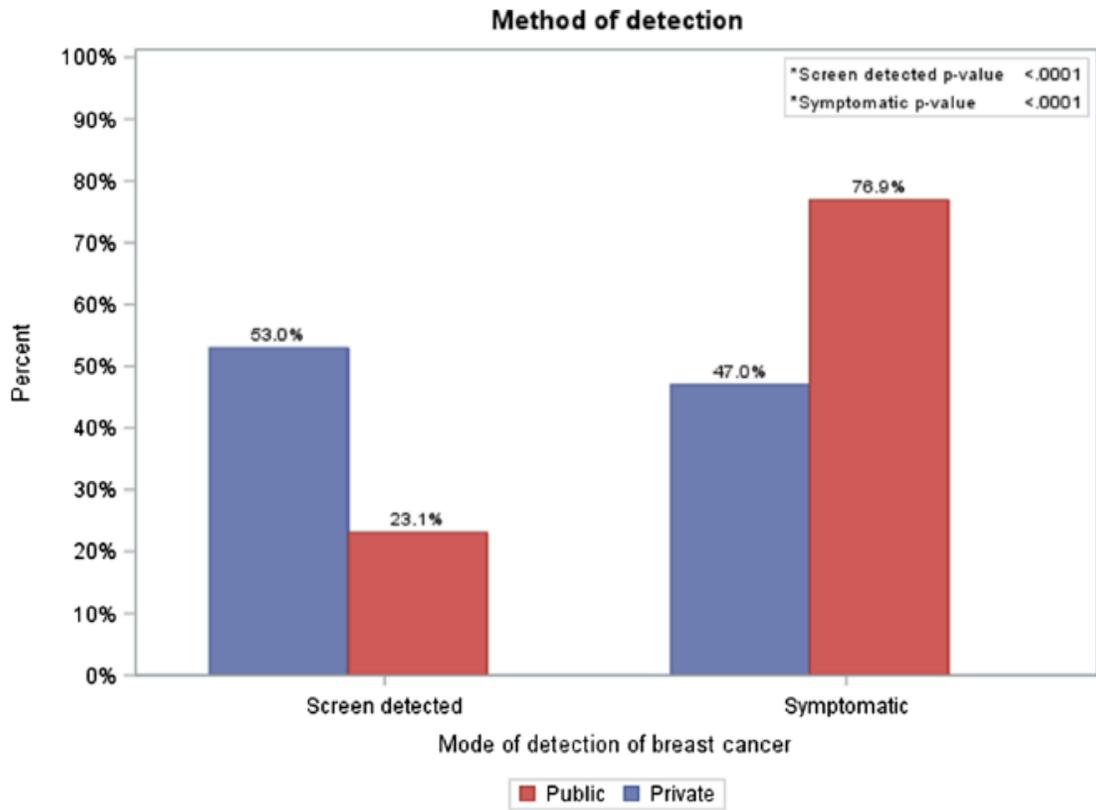
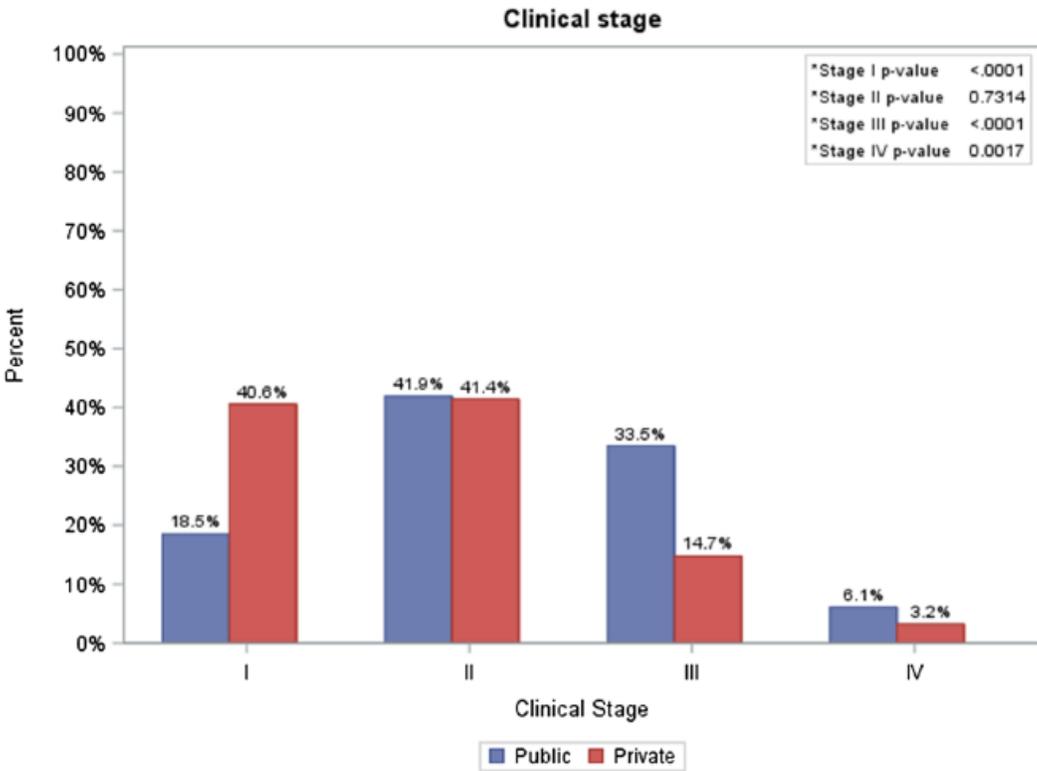
Sobrevida Global



Sobrevida Global

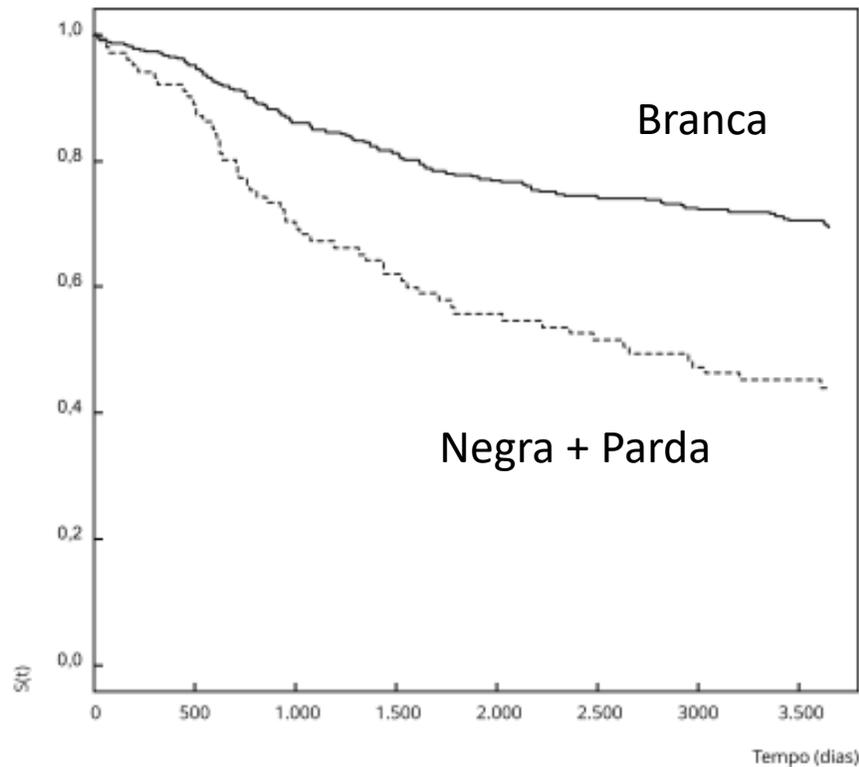


The impact of sociodemographic factors and health insurance coverage in the diagnosis and clinicopathological characteristics of breast cancer in Brazil: AMAZONA III study (GBECAM 0115)



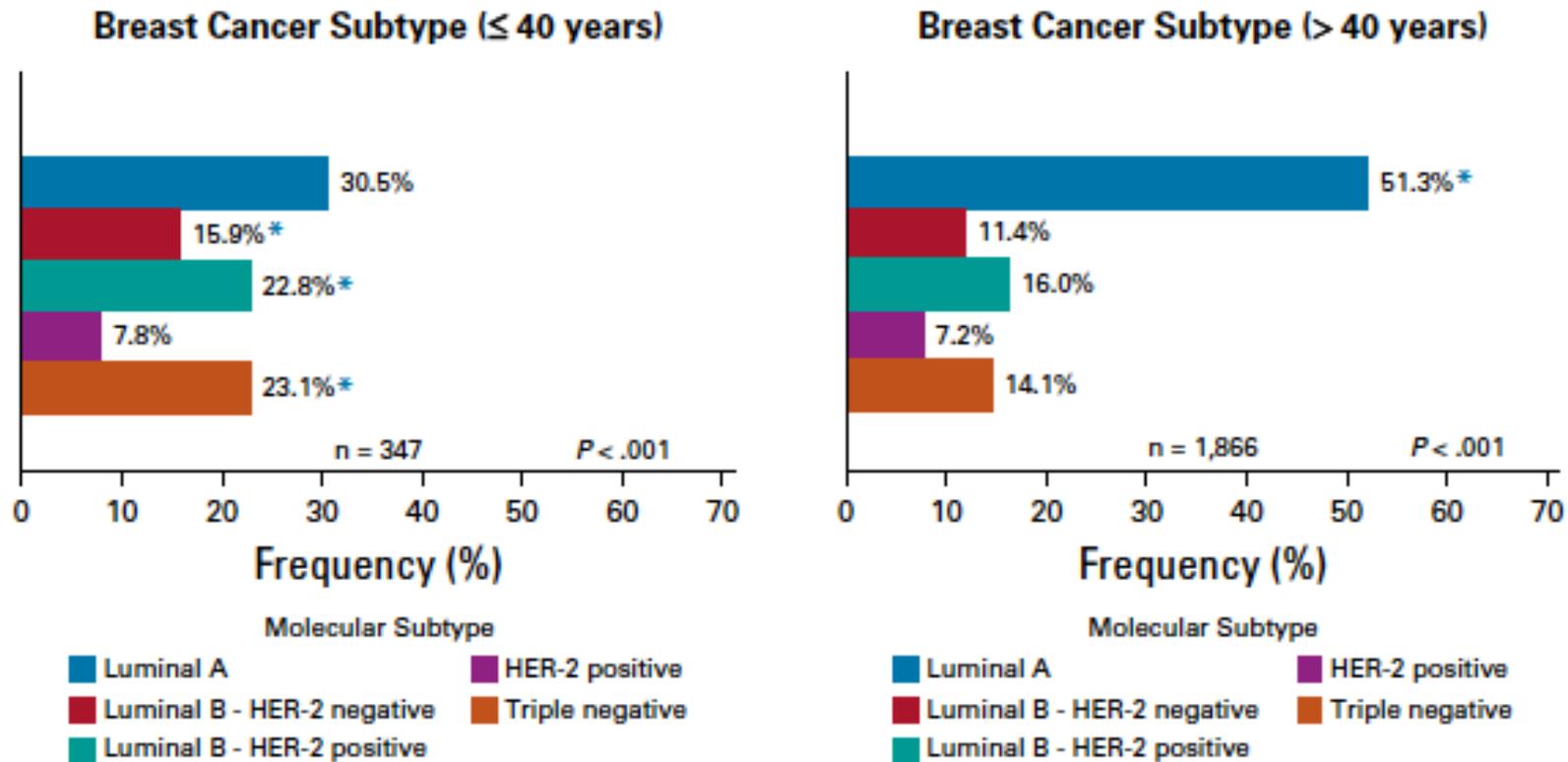
Disparidade racial na sobrevivência em 10 anos para o câncer de mama: uma análise de mediação usando abordagem de respostas potenciais

n= 472; Juiz de Fora

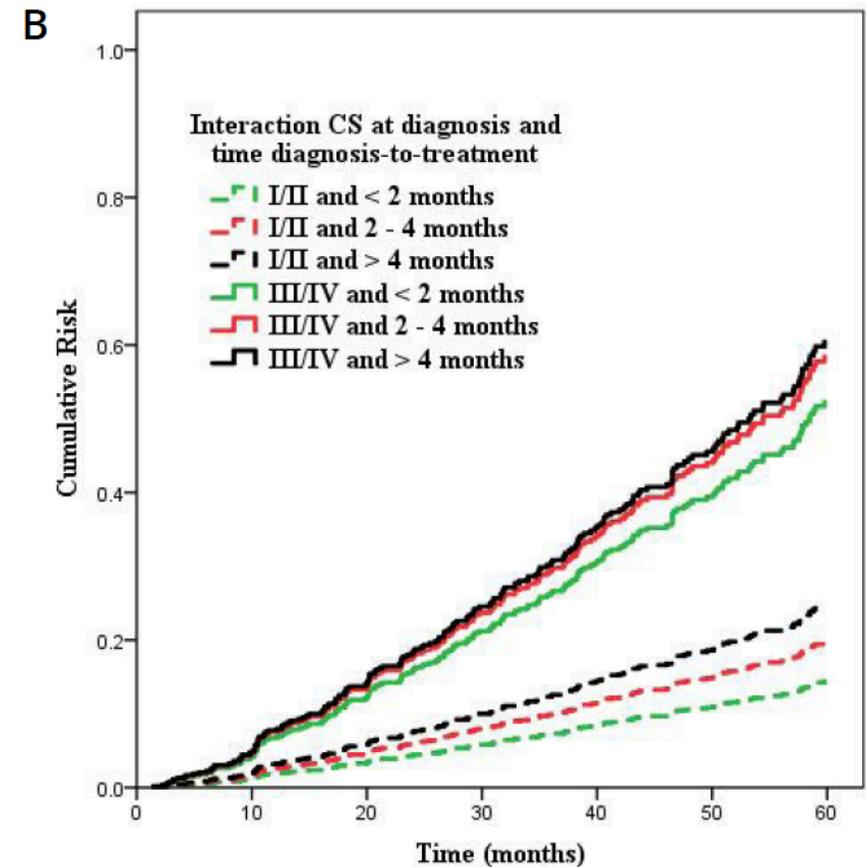
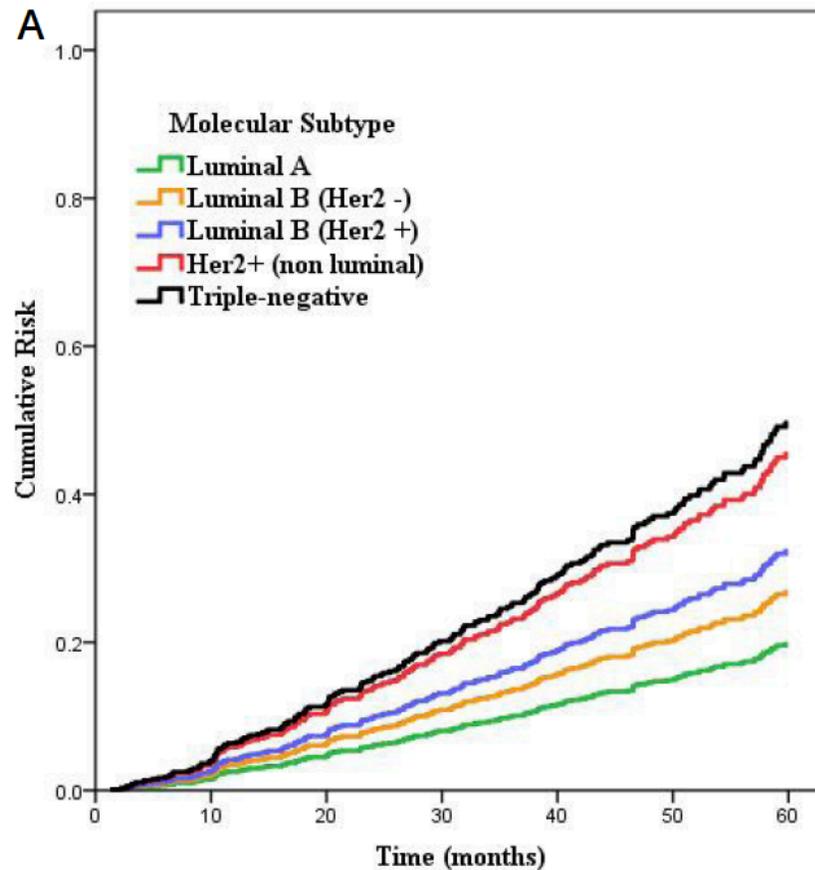


Categoria	Variável	Razão de Risco
Faixa etária	< 50	Ref.
	50-69	0,76
	> 70	1,06
Raça	Branca	Ref.
	Negra + Parda	2.27
Renda	Alta	Ref.
	Média	1,28
	Baixa	1,70
Setor	Muito baixa	2,59
	Privado	Ref.
	Público	1,67

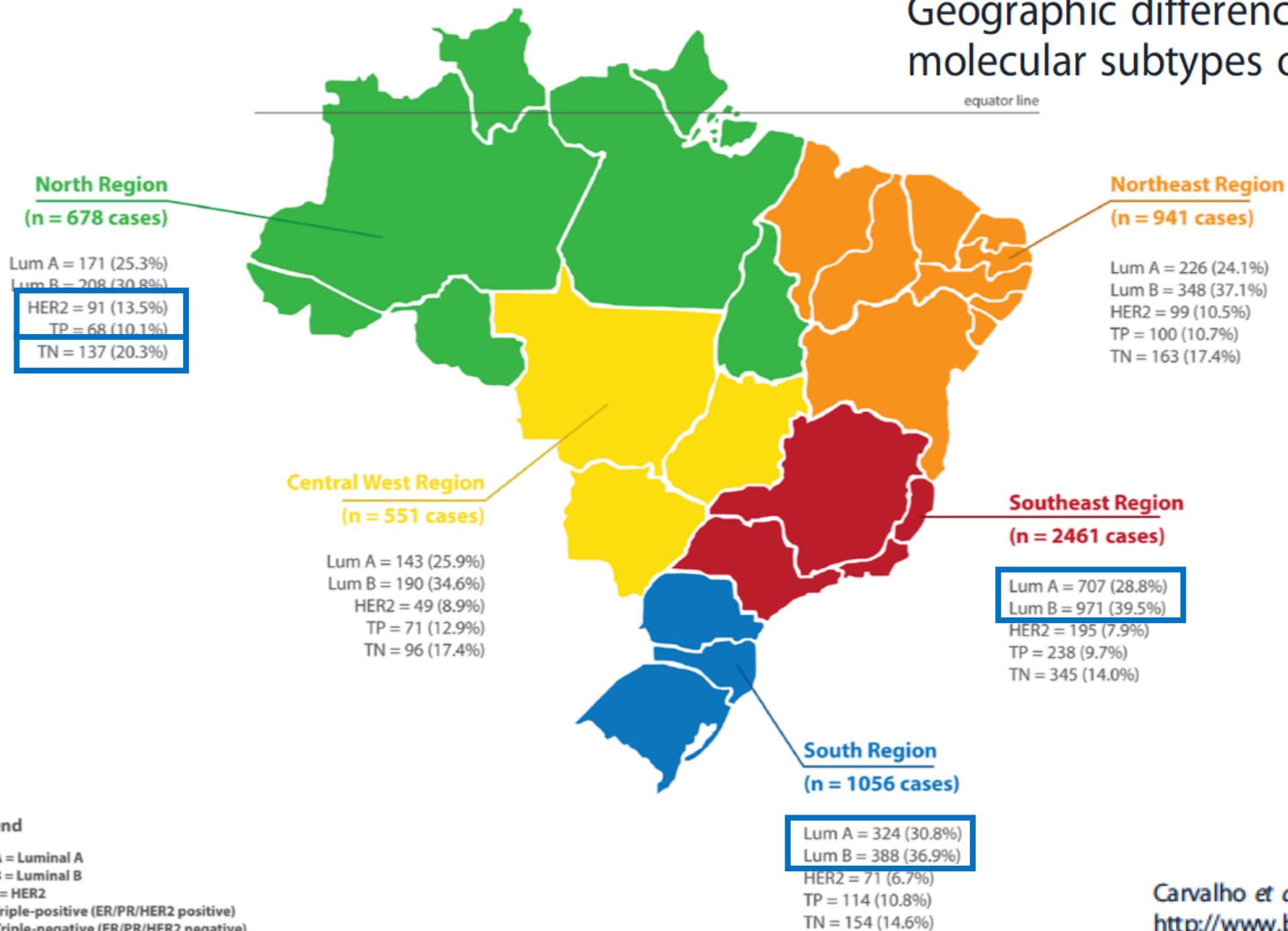
Advanced Stage at Diagnosis and Worse Clinicopathologic Features in Young Women with Breast Cancer in Brazil: A Subanalysis of the AMAZONA III Study (GBECAM 0115)



Molecular subtypes as a prognostic breast cancer factor in women users of the São Paulo public health system, Brazil



Geographic differences in the distribution of molecular subtypes of breast cancer in Brazil



Legend

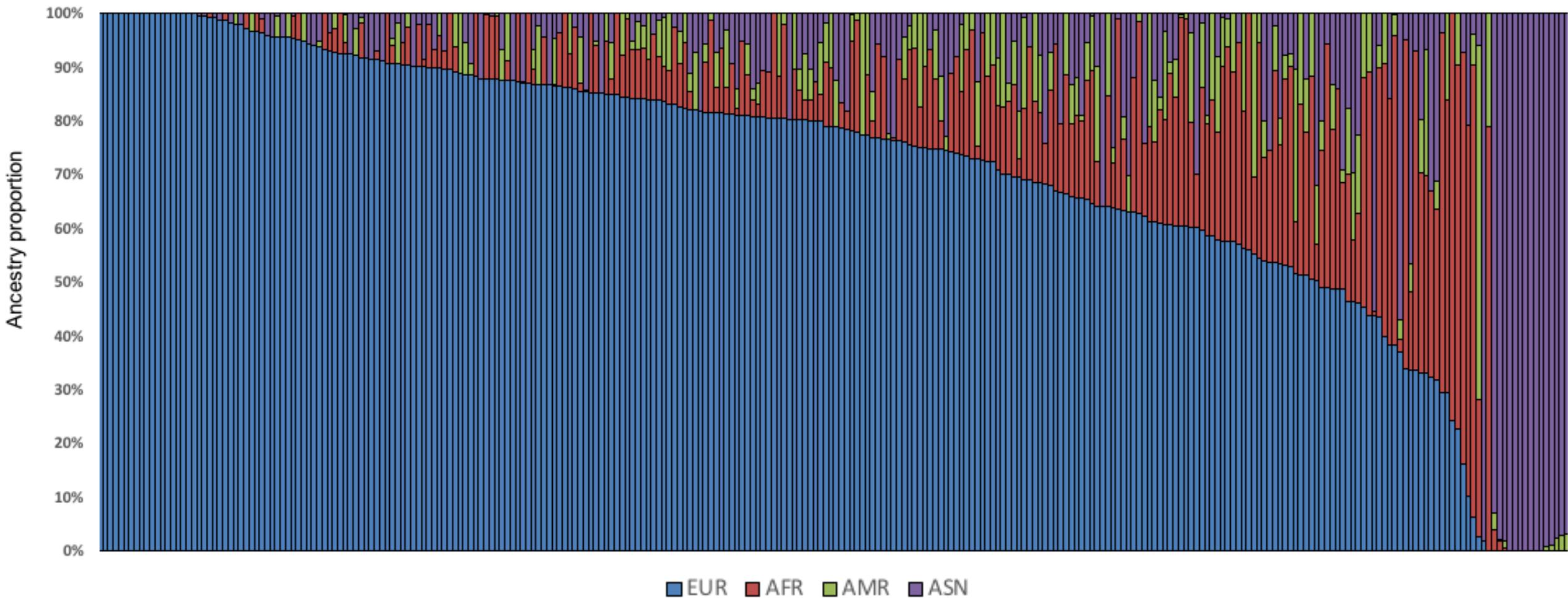
Lum A = Luminal A
Lum B = Luminal B
HER2 = HER2
TP = Triple-positive (ER/PR/HER2 positive)
TN = Triple-negative (ER/PR/HER2 negative)

Characterization of genetic predisposition to molecular subtypes of breast cancer in Brazilian patients

- 321 BC, critério de teste para BRCA1/2
- 1.2% Judeu Ashkenazi
- Painel Multigenico: positividade teste 9.6% para 25.2%

Ancestralidade: 282 pacientes

Ancestralidade asiática associada a câncer de mama familiar e VUS



Objetivo

Objetivo Geral

Estudar a ancestralidade em pacientes portadoras de cancer de mama no Brasil

Objetivo Secundário

- Avaliar o impacto da ancestralidade na idade do diagnóstico, raça, região geográfica e nos subtipos moleculares

Materiais e Métodos

- Aprovação Ética 1136/2016
- FAPESP nº 2017/26304-7 e 2018/16629-9

Materiais e Métodos

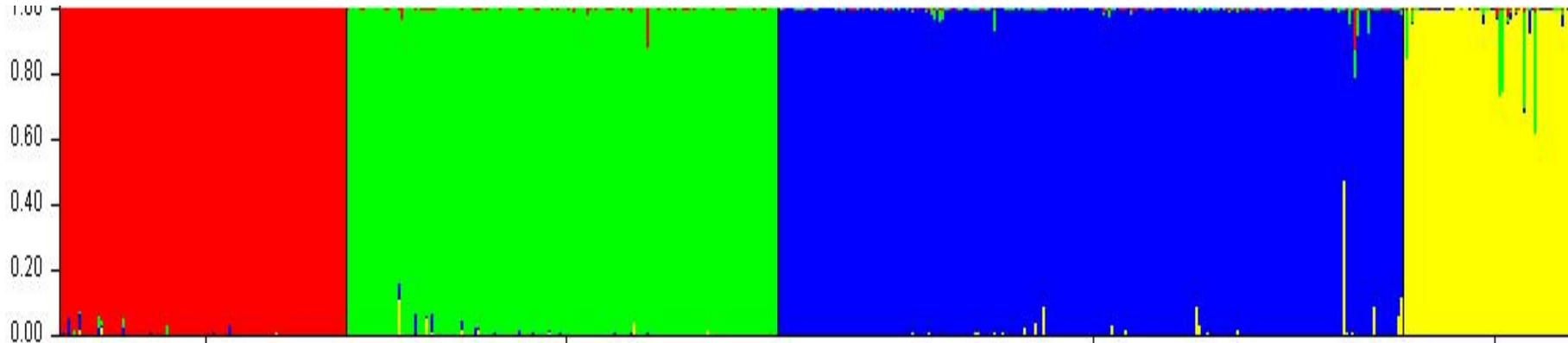
- Observacional, Transversal, Epidemiológico
- Câncer de mama em diferentes regiões

- Dados Clínicos x Patológicos (Imunohistoquímica)
- Características moleculares (Ancestralidade)

Materiais e Métodos

- Clínicas: idade, naturalidade, raca/cor autoreferida
- Subtipo molecular: imunohistoquímica
- Molecular: Extração DNA
- Ancestralidade: AIM-INDEL; GeneMapper 4.0 software;
Structure v.2.3.3 software
- Ancestralidade: Europeia, Africana, Ameríndia, and Asiática

INDELs: Projeto de Diversidade do Genoma humano



Ethnic Group	Country
BantuSouthAfrica	SouthAfrica
BantuSouthAfrica	Lesotho
BantuSouthAfrica	BotswanaOrNamibia
BantuSouthAfrica	Angola
BantuKenya	Kenya
Mandenka	Senegal
Yoruba	Nigeria
BiakaPygmy	CentralAfricanRepublic
MbutiPygmy	Congo
San	Namibia

Ethnic Group	Country
Orcadian	OrkneyIslands
Adygei	Russia-Caucasus
Basque	France
French	France
Italian	Italy-Bergamo
Sardinian	Italy
Tuscan	Italy

Ethnic Group	Country
Han	China
Han-NChina	China
Dai	China
Daur	China
Hezhen	China
Lahu	China
Miao	China
Oroqen	China
She	China
Tujia	China
Xibo	China
Yi	China
Mongola	China
Naxi	China
Cambodian	Cambodia
Japanese	Japan
Yakut	Siberia

Ethnic Group	Country
Colombian	Colombia
Karitiana	Brazil
Surui	Brazil
Maya	Mexico
Pima	Mexico

Materiais e Métodos



- 1.000 pacientes; 5 regiões
- 200 pacientes/ região
- Laboratório Bacchi
- Bloco de parafina

- Material parafinado
- Região Nordeste
- 150 Laboratório Bacchi
- 50 HCBarretos

- Baixa recuperação do DNA: 11.8%

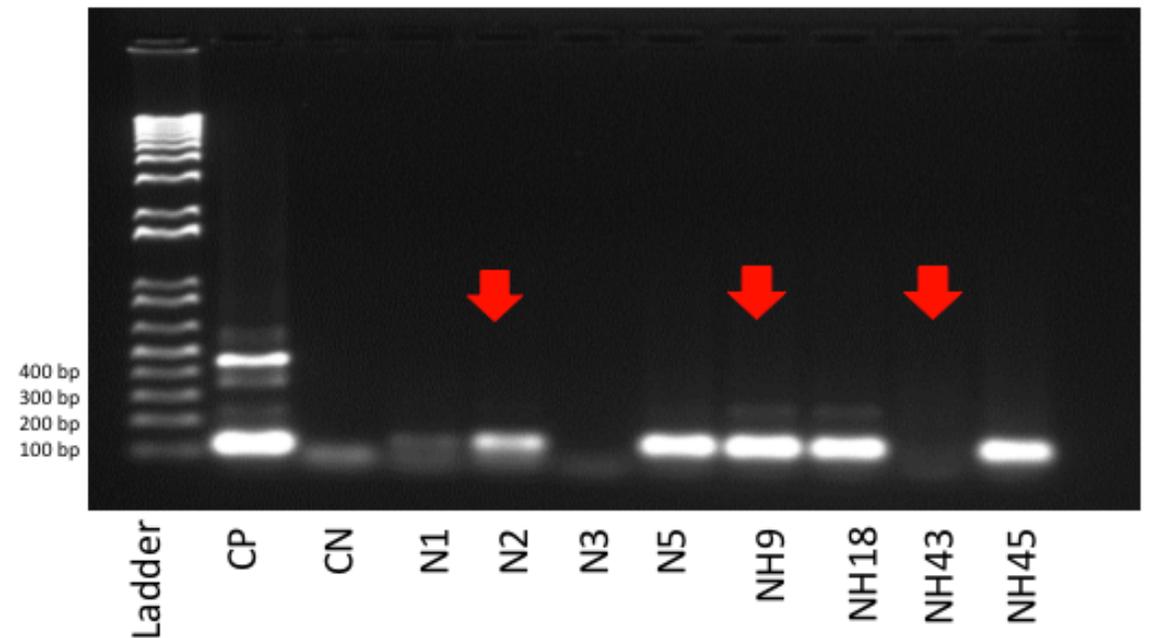
Preparo do material

DNA

- Biobanco de Barretos
- Buff coat (creme leucotário)
- Isolamento do DNA
- Controle: Concentração e Pureza do DNA

GAPDH gel electrophoresis
Range of markers < 230 bp

Fragments amplified between 100 and 200 bp



Preparo do material

Ancestralidade

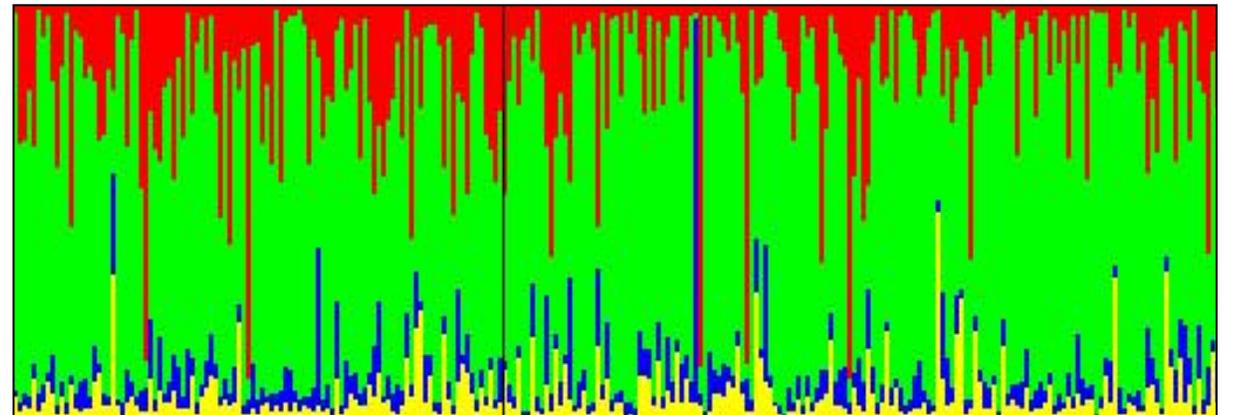
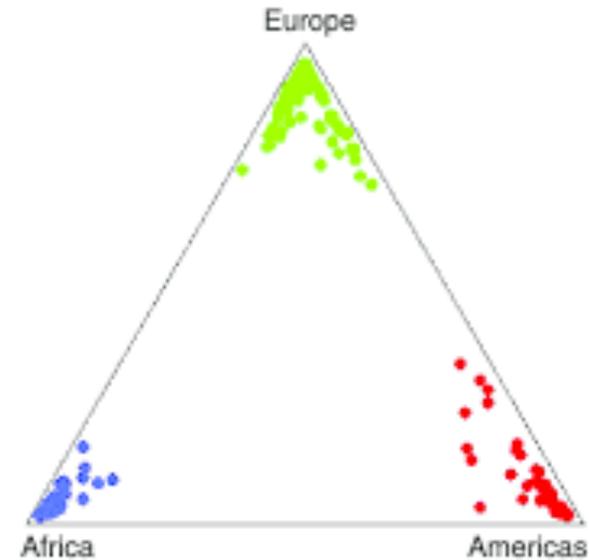
- Projeto de Diversidade do Genoma humano
- Software Gene Mapper 4.0
Exclusão < 42 AIMS
- Software Structure v.2.3.3
- Planilha Excel



Preparo do material

Ancestralidade

- Projeto de Diversidade do Genoma humano
- Software Gene Mapper 4.0
- Exclusão < 42 AIMS
- Software Structure v.2.3.3
- Planilha Excel



Materiais e Métodos

- Biobanco do Hospital de Câncer de Barretos
- 1.215 pacientes
- DNA não recuperado: 88 pacientes
- 1.127: recuperação do DNA – Amostra de conveniência

Materiais e Métodos

- Subtipo molecular: imunohistoquímica

	RE/RP	Her2	Ki67
Luminal A	+	-	≤ 14
Luminal B Her -	+	-	> 14
Luminal Her -	+	-	independe
Luminal Her +	+	+	independe
Her +	-/-	+	independe
Triplo negativo	-/-	-	independe

Materiais e Métodos

- Banco de dados clínicos: prontuários das pacientes
Clínicas: idade, naturalidade, raça/cor auto referida
- Estatística:
Qui-quadrado; Kruskal-Wallis teste, ANOVA (Bonferoni)
Software: IBM SPSS software

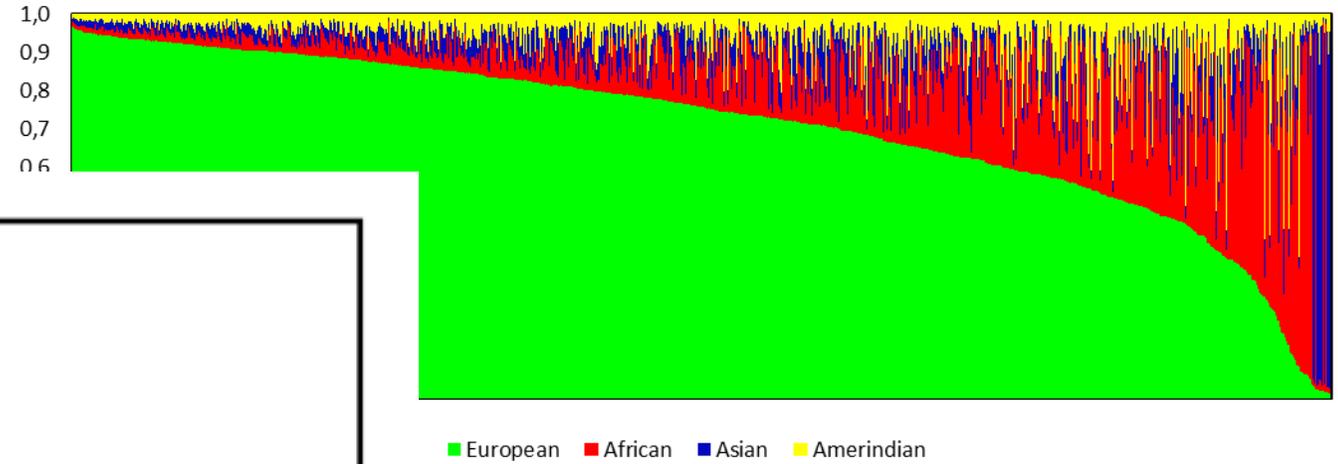
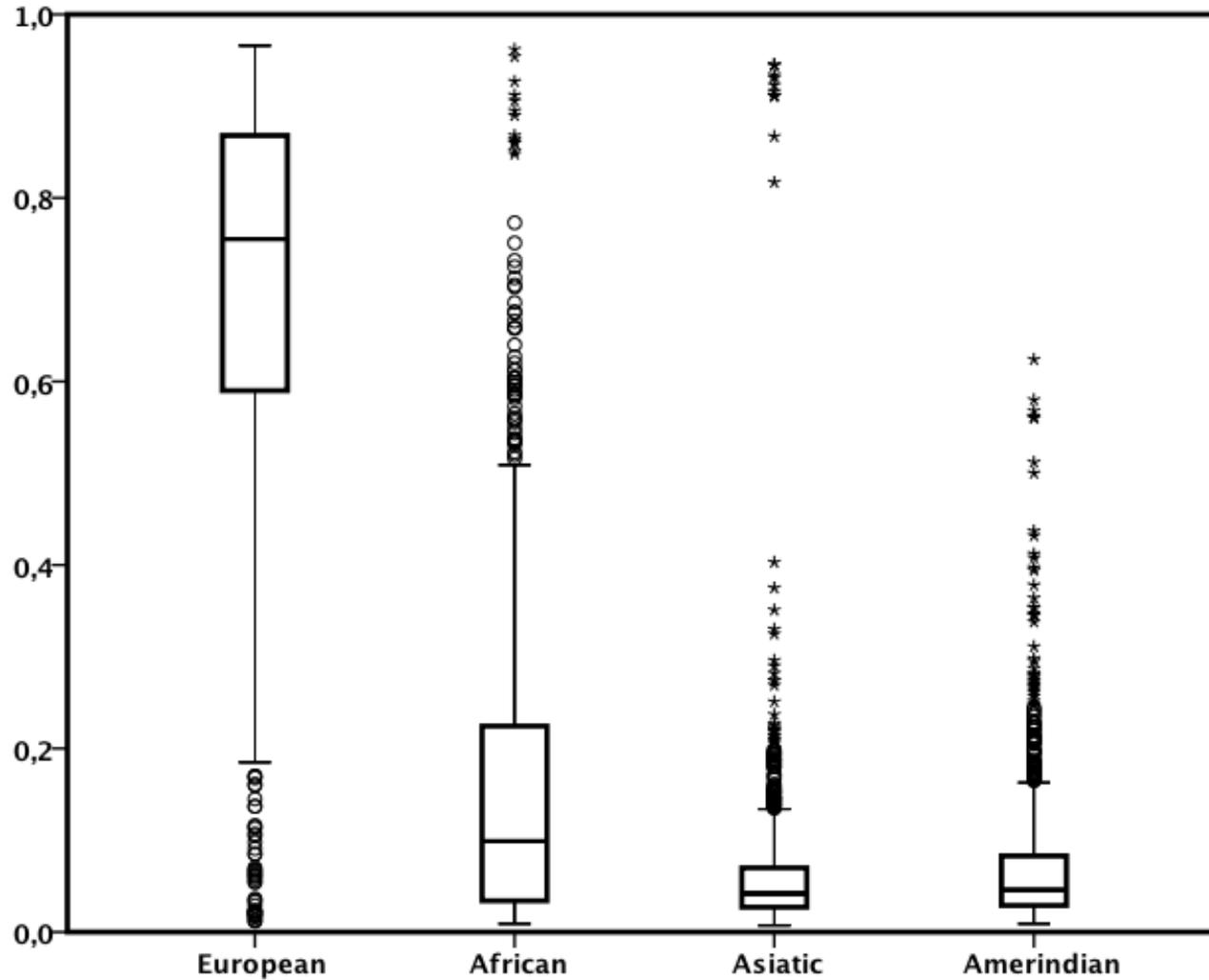
Resultados

Categoria	Variável	Numero	Percentagem
Faixa etária	< 40	187	15.4
	40 – 49	321	26.4
	40-74	648	53.3
	>75	59	4.9
Estadio Clínico	I	201	16.5
	II	440	36.2
	III	470	38.7
	IV	87	7.2
	Ignorado	17	1.4
Total	-	1.215	100%

Categoria	Variável	Numero	Percentagem
Origem/ Região	Sudeste	875	72.0
	Centro-Oeste	219	18.0
	Norte	88	7.3
	Nordeste	22	1.8
	Sul	11	0.9
Amostra	Buffy coat	1198	98.6
	Parafina	17	1.4

Categoria	Variável	Numero	Percentagem
Subtipo molecular	Luminal A	144	11.9
	Luminal B HER negativo	617	50.8
	Luminal HER negativo	25	2.1
	Luminal B HER positivo	156	12.8
	HER-2	76	6.3
	Triplo negativo	197	16.2
Côr/Raça	Branca	956	77.9
	Parda	212	17.4
	Negra	49	4.0
	Amarelo	5	0.4
	Cafuso	3	0.2

Ancestralidade



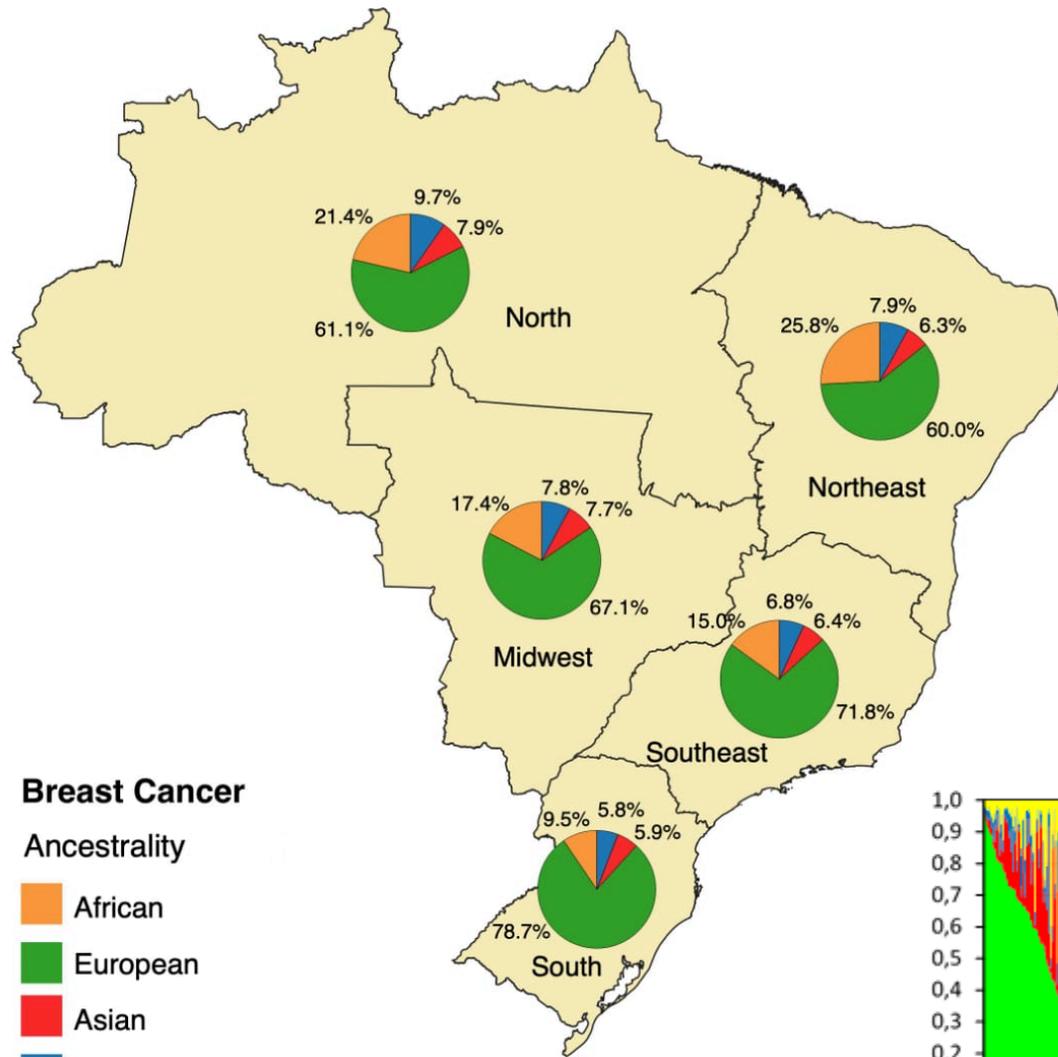
Cor autoreferida e variáveis clínicas

Categoria	Variável	Branco	Pardo	Negro	Outros	p
Naturalidade	Sudeste	663 (80,2%)	118 (14,3%)	41 (5,0%)	5 (0,6%)	< 0.001
	Centro-Oeste	144 (74,6%)	45 (23,3%)	4 (2,1%)	0	
	Norte	49 (62,8%)	28 (35,9%)	1 (1,3%)	0	
	Nordeste	11 (59,9%)	6 (31,6%)	0	2 (10,5%)	
	Sul	9 (90,0%)	1 (10,0%)	0	0	
Faixa Etária	≤ 39	134 (78,4%)	31 (18,1%)	6 (3,5%)	0	0,061
	40-49	226 (76,1%)	63 (21,2%)	6 (2,0%)	2 (0,7%)	
	50-74	466 (77,3%)	100 (16,6%)	33 (5,5%)	4 (0,7%)	
	≥ 75	50 (89,3%)	4 (7,1%)	1 (1,8%)	1 (1,8%)	
Escolaridade	Analfabeto	23 (60,5%)	14 (36,8%)	1 (2,6%)	0	< 0.001
	Fundamental	528 (75,3%)	133 (19,0%)	35 (5,0%)	5 (0,7%)	
	Médio	76 (77,6%)	18 (18,4%)	2 (2,0%)	2 (2,0%)	
	Superior	181 (88,7%)	22 (10,8%)	1 (0,5%)	0	
Total	-	876 (77,7%)	198 (17,6%)	46 (4,1%)	7 (0,6%)	

Estádio Clínico p=0.419; Histologia p=0.078

Categoria	Variável	Norte	Nordeste	Centro-Oeste	Sudeste	Sul	n total	p
Raça	Branca	56 (62.9)	12 (60.0)	161 (74.9)	709 (80.5)	9 (90.0)	947	<0.001
	Não branca	33 (37.1)	8 (40.0)	54 (25.1)	172 (19.5)	1 (10.0)	268	
Africana	Baixa	16 (20.5)	2 (10.5)	52 (26.9)	300 (36.3)	3 (30.0)	373	<0.001
	Intermediaria	22 (28.2)	7 (36.8)	67 (34.7)	281 (34.0)	5 (50.0)	382	
	Alta	40 (51.3)	10 (52.6)	74 (38.3)	246 (29.7)	2 (20.0)	372	
Européia	Baixa	41 (52.6)	11 (57.9)	73 (37.8)	244 (29.5)	2 (20.0)	371	<0.001
	Intermediaria	26 (33.3)	6 (31.6)	77 (39.9)	269 (32.5)	2 (20.0)	380	
	Alta	11 (14.1)	2 (10.5)	43 (22.3)	314 (38.0)	6 (60.0)	376	

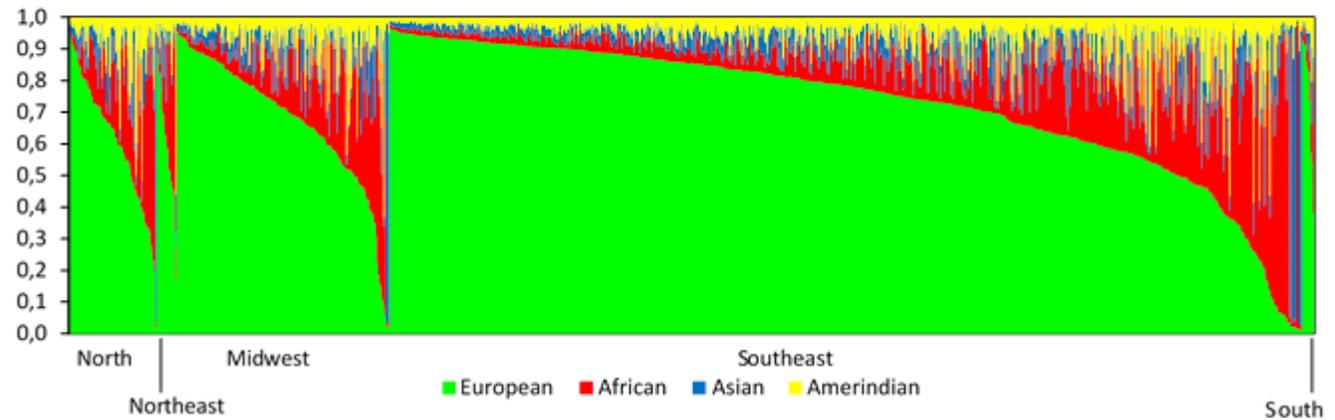
Categoria	Variável	Norte	Nordeste	Centro-Oeste	Sudeste	Sul	N total	p
Asiatica	Baixa	16 (20.5)	5 (26.3)	60 (31.1)	280 (33.9)	4 (40.0)	365	0.07
	Intermediaria	30 (38.5)	10 (52.6)	56 (29.0)	290 (35.1)	3 (30.0)	389	
	Alta	32 (41.0)	4 (21.1)	77 (39.9)	257 (31.1)	3 (30.0)	373	
Amerindia	Baixa	21 (26.9)	7 (36.8)	53 (27.5)	275 (33.3)	3 (30.0)	359	0.328
	Intermediaria	25 (32.1)	6 (31.6)	65 (33.7)	299 (36.2)	5 (50.0)	400	
	Alta	32 (41.0)	6 (31.6)	75 (38.9)	253 (30.6)	2 (20.0)	368	



Breast Cancer

Ancestry

- African
- European
- Asian
- Amerindian

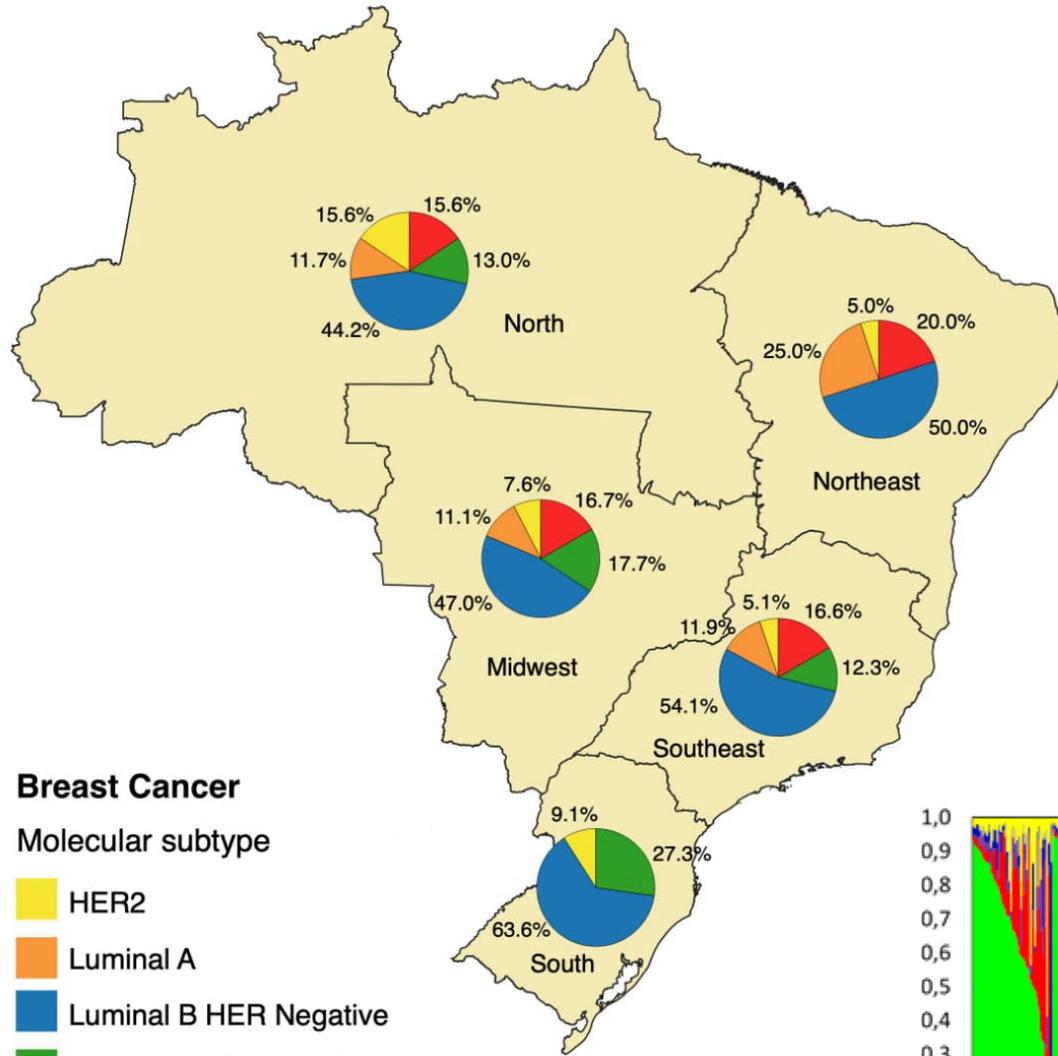


Ancestralidade genética e subtipos moleculares

Categoria	Variável	Luminal HER-	Luminal B HER+	HER+	Triplo-Negativo	n total	p [#]
Etinia	(IBGE)						
Côr/Raça	Branca	622 (79.1)	122 (78.2)	58 (76.3)	145 (73.6)	947	0.535
	Parda	126 (16.0)	27 (17.3)	15 (19.7)	43 (21.8)	211	
	Negra	31 (3.9)	7 (4.5)	3 (3.9)	50 (4.1)	50	
	Outra	7 (0.9)	0	0	7 (0.6)	7	
Total	-	786 (4.7)	156 (12.8)	76 (6.3)	197 (16.2)	1.215	

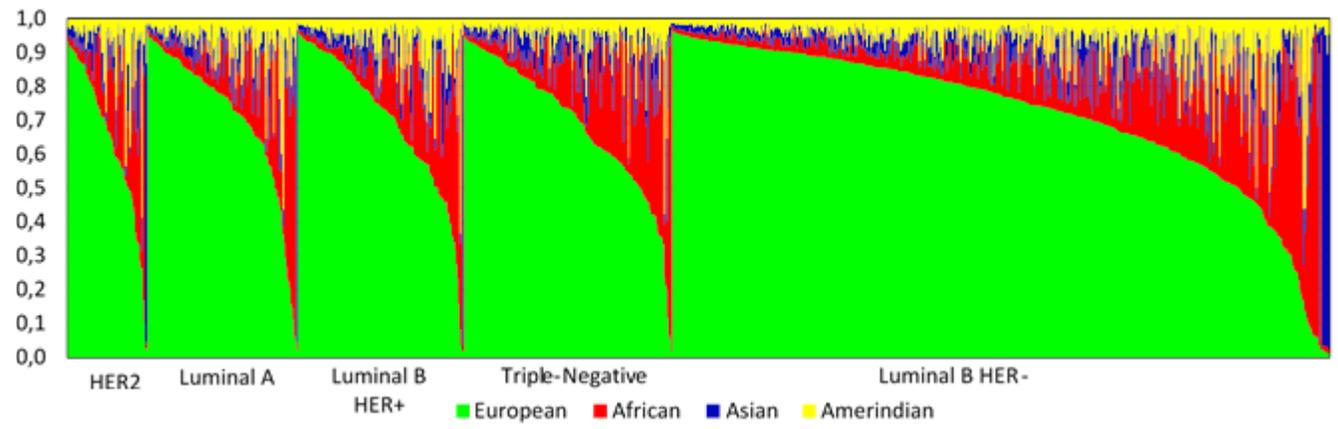
Faixa etária	Raça	Luminal Her-	Luminal B Her2+	Her2	Triplo negativo	Total	p
≤ 39	Branco	80	26	8	35	149	0,873
	Pardo	17	5	3	7	32	
	Negro	2	1	1	2	6	
40-49	Branco	154	42	11	36	243	0,753
	Pardo	36	11	2	16	68	
	Negro	5	1	0	2	6	
	Amarelo	1	0	0	0	1	
	Cafuso	1	0	0	0	1	
50-74	Branco	344	53	37	67	501	0,991
	Pardo	70	11	10	17	108	
	Negro	23	5	2	5	35	
	Amarelo	2	0	0	0	2	
	Cafuso	2	0	0	0	2	
≥ 75	Branco	44	1	2	6	53	0,999
	Pardo	3	0	0	1	4	
	Negro	1	0	0	0	1	
	Amarelo	1	0	0	0	1	

Categoria	Variável	Luminal HER-	Luminal B HER+	HER+	Triplo Negativo	N total	<i>p</i>
Africana	Baixa	258 (35.7)	52 (34.9)	19 (26.8)	44 (23.8)	373	0.005
	Intermediaria	252 (34.9)	46 (30.9)	21 (29.6)	63 (34.1)	382	
	Alta	212 (29.4)	51 (34.2)	31 (43.7)	78 (42.2)	372	
Européia	Baixa	208 (28.8)	55 (36.9)	33 (46.5)	75 (40.5)	371	0.003
	Intermediaria	252 (34.9)	45 (30.2)	22 (31.0)	61 (33.0)	380	
	Alta	262 (36.3)	49 (32.9)	16 (22.5)	49 (26.5)	376	
Asiática	Baixa	253 (35.0)	44 (29.5)	14 (19.7)	54 (29.2)	365	0.055
	Intermediaria	238 (33.0)	54 (36.2)	24 (33.8)	73 (39.5)	389	
	Alta	231 (32.0)	51 (34.2)	33 (46.5)	58 (31.4)	373	



Breast Cancer
Molecular subtype

- HER2
- Luminal A
- Luminal B HER Negative
- Luminal B HER Positive
- Triple Negative



Categoria	Variável	Luminal HER-	Luminal B HER+	HER+	Triplo Negativo	N total	<i>p</i>
Estádio Clínico	I	165 (21.3)	15 (9.7)	6 (8.0)	16 (8.1)	202	<0.001
	II	306 (39.5)	57 (37.0)	17 (22.7)	60 (30.5)	440	
	III	262 (33.9)	68 (44.2)	42 (56.0)	99 (50.3)	471	
	IV	41 (5.3)	14 (9.1)	10 (13.3)	22 (11.2)	87	
Faixa etária	<40	99 (12.6)	32 (20.5)	12 (15.8)	44 (22.3)	187	<0.001
	40 a 49	197 (21.1)	54 (34.6)	13 (17.1)	57 (28.9)	321	
	50 a 74	441 (56.1)	69 (44.2)	49 (64.5)	89 (45.2)	648	
	> 74	49 (6.2)	1 (0.6)	2 (2.6)	7 (3.6)	59	

Faixa etária	Região geográfica	Luminal Her-	Luminal B Her2+	Her2+	Triplo negativo	Total	p
≤ 39	Centro-Oeste	16	9	1	10	36	0,843
	Nordeste	3	0	0	1	4	
	Norte	11	3	2	3	19	
	Sudeste	67	20	9	30	126	
	Sul	2	0	0	0	2	
40-49	Centro-Oeste	34	14	1	8	57	0,448
	Nordeste	3	0	1	0	4	
	Norte	17	3	2	5	27	
	Sudeste	141	36	9	44	230	
	Sul	2	1	0	0	3	
50-74	Centro-Oeste	76 (63,3)	14 (11,7)	12 (10,0)	18 (15,0)	120 (18,5)	0,002
	Nordeste	9 (69,2)	0	0	4 (30,8)	13 (2,0)	
	Norte	21 (50,0)	5 (11,9)	10 (23,8)	6 (14,3)	42 (6,5)	
	Sudeste	332 (71,1)	48 (10,3)	26 (5,6)	61 (13,1)	467 (72,1)	
	Sul	3 (50,0)	2 (33,3)	1 (16,7)	0	6 (0,9)	
≥ 75	Centro-Oeste	5	0	1	0	6	0,597
	Nordeste	1	0	0	0	1	
	Sudeste	43	1	1	7	52	

Conclusões

- O subtipo molecular influencia a idade, o estadio do câncer de mama
- O subtipo molecular é influenciado pela ancestralidade europeia e africana
- Não se observou relação entre o subtipo molecular e a raça/cor
- Na faixa etária 50-74, observa-se diferenças entre a distribuição do subtipo molecular na diferentes regiões do Brasil, fato que pode contribuir para políticas de saúde pública

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Genetic Ancestry of 1127 Brazilian Breast Cancer Patients and Its Correlation With Molecular Subtype and Geographic Region

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Abstract

No study evaluated genetic ancestry in breast cancer patients in Brazil. Ancestry was associated with nativity, ethnicity, clinical characteristics and molecular subtype. European ancestry was more frequent in Luminal Her negative and African ancestry was more frequent in triple negative. These facts may contribute better knowledge of breast cancer disparities and for planning public health strategies.

Purpose: Breast cancer molecular subtypes show significant differences in different ethnic groups in the United States, but no study has evaluated genetic ancestry in breast cancer in Brazilian women. **Methods:** Breast cancer patients from distinct parts of Brazil were evaluated. Molecular subtypes were determined by immunohistochemistry. Genetic ancestry was evaluated using a panel of 46 AIMs (ancestry informative markers), which classified genetic ancestry as European, African, Asian, and Amerindian. PCR products were subjected to capillary electrophoresis and analyzed using GeneMapper 4.0 software. Ancestry was evaluated with Structure v.2.3.3 software. Ancestry was tested for correlations with geographic region and molecular subtype. The chi-square test and ANOVA with Bonferroni adjustment were applied. **Results:** Genetic ancestry and clinical data were evaluated in 1127 patients. Higher rates of self-reported white ethnicity, European ancestry, and HER-2⁻ luminal tumors were identified in the South region, which may influence age at diagnosis and result in a higher rate of early tumors. Conversely, higher rates of African ancestry in the North and Northeast regions, self-reported nonwhite ethnicity, HER-2⁺ tumors, and triple-negative tumors were noted. Triple-negative and HER-2⁺ tumors were associated with higher advanced and metastatic disease rates at diagnosis, with triple-negative tumors being more frequent in young women. **Conclusion:** Differences in genetic ancestry, self-reported ethnicity, and molecular subtype were found between Brazilian demographic regions. Knowledge of these features may contribute to a better understanding of age at diagnosis and the molecular distribution of breast cancer in Brazil.

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