Table 1. Frequencies and means of age, marital status, race/ethnicity, smoking status, BMI, and annual income among females ages 18-84 in the United States from 2019-2022.

**N (%)**

|  |  |
| --- | --- |
| **Age**  Mean age (SD, range)  Median age (IQR) | 66.4 +/- 14.2  69 [58;77] |
| **Marital Status**  Married  Living with a partner unmarried  Neither | 836 (39.6%)  76 (3.6%)  1199 (56.8%) |
| **Race/Ethnicity**  Hispanic  Non-Hispanic White only  Non-Hispanic Black only  Non-Hispanic Asian only  Non-Hispanic AIAN and any other group  Other single and multiple race | 126 (6.0%)  1794 (85%)  111 (5.3%)  27 (1.3%)  38 (1.8%)  15 (0.7%) |
| **Smoking status**  Current everyday smoker  Current someday smoker  Former smoker  Never smoker | 208 (9.9%)  48 (2.3%)  683 (32.4%)  1172 (55.6%) |
| **Annual family income in USD**  Mean annual family income in USD (SD)  Median annual family income in USD (IQR) | 63,148.9 +/- 52,191.2  48,000 [25,000;82,900] |
| **BMI**  Normal weight and below  Above normal weight | 777 (36.8%)  1334 (63.2%) |
| **Breast Cancer diagnosis**  Yes  No | 695 (32.9%)  1416 (67.1%) |

SD = standard deviation

IQR = interquartile range

Table 2. Bivariable analysis of breast cancer diagnosis and BMI, smoking status, age, race/ethnicity, and annual family income among women ages 18-84 living in the United States from 2019-2022 (weighted).

|  | Total | **Breast cancer diagnosis** | |  |
| --- | --- | --- | --- | --- |
|  | N (%) | No  n (%) | Yes  n (%) | p-value |
| **Age**  Mean Age (SD)  Median age (IQR) | 63.8 +/- 0.41  66 [65;68] | 62.3 +/- 0.49  64 [63;66] | 67.2 +/- 0.67  69 [68;71] | 0.000 \*1 |
| **Marital Status**  Married    Living with a partner unmarried    Neither | 1,574,356  (50.9%)  167,457 (5.4%)  1,351,829 (43.7%) | 1,090,497 (51.4%)  139,066 (6.6%)  892,814 (42.1%) | 483,859 (49.8%)      28,393 (2.9%)    459,015 (47.3%) | 0.021 \*1 |
| **Race/Ethnicity**  Hispanic    Non-Hispanic White only    Non-Hispanic Black only  Non-Hispanic Asian  Non-Hispanic AIAN and any other group    Other single and multiple race | 277,649 (8.9%)  2,496,196 (80.7%)  82,599 (5.9%)  51,978 (1.8%)  61,341 (1.9%)  23,878 (0.7%) | 177,262 (8.4%)  1,757,187  (82.8%)  110,347 (5.2%)  20,920 (0.9%)  45,943 (2.2%)  10,714 (0.5%) | 100,386 (10.3%)  739,009 (76.1%)  72,251 (7.4%)  31,057 (3.2%)  15,397 (1.6%)  13,164 (1.4%) | 0.015 \*1 |
| **Smoking status**  Current every day smoker    Current someday smoker  Former smoker    Never smoker | 349,205 (11.3%)    69,009 (2.2%)  909,150 (29.4%)  1,766,277 (57.1%) | 300,315 (14.1%)  54,479 (2.6%)  604,852 (28.5%)  1,162,729 (54.8%) | 48,890 (5.0%)  14,530 (1.5%)  304,297 (31.3%)  603,548 (62.1%) | 0.000 \*1 |
| **Annual family income in USD**  Mean annual family income in USD (SD)  Median annual family income in USD (IQR) | 69,305 +/- 1,603  52,681 [50,000;57,443] | 68,241 +/- 1910  54,000 [50,000;60,000] | 71,625 +/- 2820  50,000 [50,000;57,443] | 0.3121 |
| **BMI**  Normal weight and below    Above normal weight | 1,101,407 (35.6%)  1,992,236 (64.4%) | 785,377.4 (37%)  1,336,999.1 (63%) | 316,029.7 (32.5%)  655,236.9 (67.5%) | 0.048\*1 |

1 Pearson’s X2

2 T-test

\* p-value < 0.05

Table 3. Bivariable analysis of BMI and breast cancer diagnosis, smoking status, age, race/ethnicity, and family income among women ages 18-84 living in the United States from 2019-2022 (weighted).

|  | **Total** | **Body Mass Index** | |  |
| --- | --- | --- | --- | --- |
|  | N (%) | Under or normal weight  n (%) | Above normal weight  n (%) | p-value |
| **Age**  Mean Age (SD)  Median age (IQR) | 63.8 +/- 0.41  66 [65;68] | 65.3 +/- 0.67  67 [65;69] | 63.0 +/- 0.5  65 [64;67] | 0.006\*1 |
| **Marital Status**  Married    Living with a partner unmarried  Neither | 1,574,356  (50.9%)  167,457 (5.4%)  1,351,829 (43.7%) | 606,822 (55.1%)  47976 (4.4%)  446608 (40.5%) | 967,532 (48.6%)  119,482 (6.0%)  905220 (45.4%) | 0.0831 |
| **Race/Ethnicity**  Hispanic    Non-Hispanic White only    Non-Hispanic Black only  Non-Hispanic Asian  Non-Hispanic AIAN and any other group    Other single and multiple race | 277,649 (8.9%)  2,496,196 (80.7%)  82,599 (5.9%)  51,978 (1.8%)  61,341 (1.9%)  23,878 (0.7%) | 44,609 (4.1%)  979,578 (88.9%)  27,170 (2.5%)  26,618 (2.4%)  18,630 (1.7%)  4,800 (0.4%) | 233,039 (11.7%)  1,516,618 (76.1%)  155,428 (7.8%) 25,360 (1.3%)  42,710 (2.1%)  19,078 (0.9%) | 0.000\*1 |
| **Smoking status**  Current every day smoker    Current someday smoker  Former smoker    Never smoker | 349,205 (11.3%)    69,009 (2.2%)  909,150 (29.4%)  1,766,277 (57.1%) | 153,187 (13.9%)  28,809 (2.6%)  312,281 (28.4%)  607,128 (55.1%) | 196,017 (9.8%)  40,200 (2.0%)  596,868 (30%)  1,159,149 (58.2%) | 0.1121 |
| **Annual family income in USD**  Mean annual family income in USD (SD)  Median annual family income in USD (IQR) | 69,305 +/- 1,603  52,681 [50,000;57,443] | 77,611 +/- 2,605  61,192 [59,887;70,000] | 64,711 +/- 1,806  50,000  [50,000;57,000] | 0.000\*2 |
| **Breast cancer**  Diagnosed    Not diagnosed | 971,266 (31.4%)  2,122,376 (68.6%) | 316,029 (28.7%)  785,377 (71.3%) | 655,236 (32.9%)  1,336,999 (67.1%) | 0.048\*1 |

1 Pearson’s X2

2 T-test

\* p-value < 0.05

Table 4. Odds ratio at the 95% confidence interval of breast cancer diagnosis and BMI, smoking status, age, race/ethnicity, and annual family income among women ages 18-84 living in the United States from 2019-2022.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Crude OR (95% CI)** | **Full model**  **Adjusted OR (95% CI)** | **Interaction Model**  **Adjusted OR (95% CI)** |
| **Age** |  | 1.02 (1.01 – 1.03) \* | 1.02 (1.01 – 1.03) \* |
| **Marital Status**  Married  Living with a partner unmarried  Neither |  | Reference Category  0.77 (0.36 – 1.64)  1.14 (0.89 – 1.46) | Reference Category  0.78 (0.36 – 1.69)  1.13 (0.88 – 1.44) |
| **Race/ethnicity**  Hispanic  Non-Hispanic White only  Non-Hispanic Black only  Non-Hispanic Asian only  Non-Hispanic AIAN and any other group  Other single and multiple race |  | 1.71 (0.98 – 2.94) \*  Reference Category  1.56 (0.98 – 2.48) \*  3.48 (1.43 – 8.50) \*  1.00 (0.44 – 2.28)  3.73 (0.97 – 14.33) \* | 4.56 (1.46 – 14.22) \*  Reference Category  1.26 (0.34 – 4.60)  2.90 (0.87 – 9.59)  1.15 (0.26 – 5.23)  12.62 (1.64 – 97.18) \* |
| **Smoking Status**  Current everyday smoker  Current someday smoker  Former smoker  Never smoker |  | 0.44 (0.28 – 0.72) \*  0.74 (0.32 – 1.71)  1.00 (0.80 – 1.26)  Reference Category | 0.45 (0.28 – 0.73) \*  0.75 (0.32 – 1.75)  1.00 (0.79 – 1.25)  Reference Category |
| **Annual family income in USD** |  | 1.00 (1.00 – 1.00) \* | 1.00 (1.00 – 1.00) \* |
| **BMI**  Normal weight and below  Above normal weight | Reference Category  1.22 (0.97 – 1.53) \* | Reference Category  1.24 (0.98 – 1.57) \* | Reference Category  1.43 (1.04 – 1.69) \* |
| **BMI x Race/ethnicity**  White: Normal weight  Hispanic: Above normal weight  Non-Hispanic Black only: Above normal weight  Non-Hispanic Asian only: Above normal weight  Non-Hispanic AIAN and any other group: Above normal weight  Other single and multiple race: Above normal weight |  |  | Reference Category  0.30 (0.09 – 1.00)  1.26 (0.31 – 5.05)  1.49 (0.25 – 8.78)  0.81 (0.12 – 5.44)  0.22 (0.01 – 3.19) |

3 Logistic Regression

\* p-value < 0.05