|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Supplement Table 1. AJCC Stage at Diagnosis according to Body Mass Index (BMI) Category**  Stages I, II, and III Breast Cancer Patients from the POC-BP Study (2004) | | | | | |  | |
|  |  |  | BMI (kg/m2) | | | |  | |
|  | < 18.5 | 18.5 - 24.9 | 25 - 29.9 | 30 - 34.9 | ≥ 35 | |  |
|  |  |  |  |  |  |  | |  |
|  | AJCC Stage 1, n (%) | 41 (52.6) | 809 (49.9) | 781 (48.9) | 496 (44.0) | 382 (39.4) | |  |
|  |  |  |  |  |  |  | |  |
|  | AJCC Stage 2, n (%) | 27 (34.6) | 596 (36.7) | 585 (36.6) | 449 (39.8) | 410 (42.3) | |  |
|  |  |  |  |  |  |  | |  |
|  | AJCC Stage 3, n (%) | 10 (12.8) | 157 (9.7) | 168 (10.5) | 122 (10.8) | 127 (13.1) | |  |
|  |  | | | | | |  | |

Supplement Table 1. AJCC Stage at Diagnosis according to Body Mass Index (BMI) Category

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Supplement Table 2. Vital Status of Breast Cancer Patients Over Time**  Stages I, II, and III Breast Cancer Patients from the POC-BP Study (2004) | | | | | | |
| Years since Diagnosis | Deceased | | Alive | | Censored at Date Last Known Alive | |
|
| n | % | n | % | n | % |
| 1 | 79 | 1.5 | 5315 | 98.5 |  |  |
| 2 | 262 | 4.9 | 5132 | 95.1 |  |  |
| 3 | 442 | 8.2 | 4952 | 91.8 |  |  |
| 4 | 600 | 11.1 | 4794 | 88.9 |  |  |
| 5 | 764 | 14.2 | 4630 | 85.8 |  |  |
| 6 | 913 | 16.9 | 3052 | 56.6 | 1429 | 26.5 |
| 7 | 1009 | 18.7 | 1040 | 19.3 | 3345 | 62.0 |
| 8 | 1033 | 19.2 | 5 | 0.1 | 4356 | 80.8 |
| 9 | 1036 | 19.2 | 1 | 0.0 | 4357 | 80.8 |
| 10 | 1036 | 19.2 | 1 | 0.0 | 4357 | 80.8 |
| 11 | 1037 | 19.2 |  |  | 4357 | 80.8 |

Supplement Table 2. Vital Status of Breast Cancer Patients Over Time

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplement Table 3. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Non-Breast Cancer Mortality According to Body Mass Index, Stratified by Age at Time of Diagnosis1** | | | | | | | |  |
|  | |  |  |  | **Non-Breast Cancer Mortality2** | | |  |
| N |  |  | HR | 95% CI | p-value for trend |  |
|  |  |  |  |  |  |  |  |  |
| Under 50 Years of Age (N = 1637) | |  |  |  |  |  |  |  |
| Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  | < 18.5 | 26 |  |  | (not estimable) |  |  |  |
|  | 18.5-24.9 | 585 |  |  | 1 (ref) |  |  |
|  | 25-29.9 | 408 |  |  | 0.70 | 0.24 - 2.05 |  |
|  | 30-34.9 | 306 |  |  | 0.46 | 0.14 - 1.47 |  |
|  | ≥35 | 312 |  |  | 0.54 | 0.19 - 1.57 |  |
|  | per 5 kg/m2 ∆ |  |  |  | 0.88 (0.65 - 1.18) | | 0.39 |  |
| 50 to 69 Years of Age (N = 2541) | |  |  |  |  |  |  |  |
| Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  | < 18.5 | 26 |  |  | 2.38 | 0.69 - 8.18 |  |  |
|  | 18.5-24.9 | 651 |  |  | 1 (ref) |  |  |
|  | 25-29.9 | 773 |  |  | 0.83 | 0.48 - 1.42 |  |
|  | 30-34.9 | 581 |  |  | 0.69 | 0.36 - 1.33 |  |
|  | ≥35 | 510 |  |  | 0.86 | 0.47 - 1.54 |  |
|  | per 5 kg/m2 ∆ |  |  |  | 0.94 (0.80 - 1.09) | | 0.41 |  |
| 70 Years of Age or Older (N = 1201) | |  |  |  |  |  |  |  |
| Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  | < 18.5 | 25 |  |  | **2.26** | 1.24 - 4.10 |  |  |
|  | 18.5-24.9 | 381 |  |  | 1 (ref) |  |  |  |
|  | 25-29.9 | 414 |  |  | 0.82 | 0.59 - 1.14 |  |  |
|  | 30-34.9 | 239 |  |  | **0.59** | 0.38 - 0.90 |  |  |
|  | ≥35 | 142 |  |  | 0.80 | 0.51 - 1.27 |  |  |
|  | per 5 kg/m2 ∆ |  |  |  | **0.82** (0.71 - 0.95) | | **0.01** |  |
| 1. p-value for interaction term (age\*BMI) = 0.30. | | | | | | | |  |
| 2. Models adjusted for AJCC stage, insurance type, poverty in census tract of residence, education levels in census tract of residence, urbanicity of residence area, tumor grade, hormone receptor status, and comorbidity level. Survey sampling was stratified by tumor registry and by race/ethnicity. | | | | | | | |  |

Supplement Table 3. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Non-Breast Cancer Mortality According to Body Mass Index, Stratified by Age at Time of Diagnosis

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Supplement Table 4. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Non-Breast Cancer Mortality According to Body Mass Index, Stratified by AJCC Stage1** | | | | | | | |  |
|  |  | |  |  |  | **Non-Breast Cancer Mortality2** | | |  |
|  | N |  |  | HR | 95% CI | p-value for trend |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Stage I (N = 2504) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 40 |  |  | **2.04** | 1.02 - 4.08 |  |  |
|  |  | 18.5-24.9 | 807 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 780 |  |  | 0.79 | 0.53 - 1.18 |  |
|  |  | 30-34.9 | 495 |  |  | 0.68 | 0.43 - 1.08 |  |
|  |  | ≥35 | 382 |  |  | 0.86 | 0.51 - 1.45 |  |
|  |  | per 5 kg/m2 ∆ | |  |  | 0.86 (0.73 - 1.00) | | 0.05 |  |
|  | Stage II (N = 2060) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 27 |  |  | 1.53 | 0.56 - 4.20 |  |  |
|  |  | 18.5-24.9 | 594 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 584 |  |  | 0.75 | 0.48 - 1.17 |  |
|  |  | 30-34.9 | 448 |  |  | 0.62 | 0.35 - 1.10 |  |
|  |  | ≥35 | 407 |  |  | 0.93 | 0.57 - 1.54 |  |
|  |  | per 5 kg/m2 ∆ | |  |  | 0.95 (0.81-1.11) | | 0.51 |  |
|  | Stage III (N = 815) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 10 |  |  | 1.78 | 0.56 - 5.63 |  |  |
|  |  | 18.5-24.9 | 216 |  |  | 1 (ref) |  |  |  |
|  |  | 25-29.9 | 231 |  |  | 0.94 | 0.47 - 1.87 |  |  |
|  |  | 30-34.9 | 183 |  |  | 0.59 | 0.18 - 1.89 |  |  |
|  |  | ≥35 | 175 |  |  | 0.88 | 0.41 - 1.85 |  |  |
|  |  | per 5 kg/m2 ∆ | |  |  | 0.92 (0.72 - 1.18) | | 0.50 |  |
|  | 1. p-value for interaction term (AJCC Stage\*BMI) > 0.31 | | | | | | | |  |
|  | 2. Models adjusted for age, AJCC stage, insurance type, poverty in census tract of residence, education levels in census tract of residence, urbanicity of residence area, tumor grade, hormone receptor status, and comorbidity level. Survey sampling was stratified by tumor registry and by race/ethnicity. | | | | | | | |  |

Supplement Table 4. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Non-Breast Cancer Mortality According to Body Mass Index, Stratified by AJCC Stage

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Supplement Table 5. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for All-Cause Mortality, Breast Cancer-Specific Mortality, and Non-Breast Cancer Mortality According to Body Mass Index (BMI) and Estrogen Receptor (ER) Status** | | | | | | | | | | | | | |  |
|  |  | | **All-Cause Mortality** | | | |  | **Breast Cancer-Specific Mortality** | | |  | **Non-Breast Cancer Mortality** | | | |
|  | HR | 95% CI | | p-value2 |  | HR | 95% CI | p-value2 |  | HR | 95% CI | p-value2 |  |
|  |  | | |  | |  |  |  |  |  |  |  |  |  |  |
| **Body Mass Index (kg/m2)** | | |  |  |  |  |
|  |  | < 18.5 | 1.31 | 0.80 - 2.15 | |  |  | **0.33** | 0.12 - 0.93 |  |  | **1.78** | 1.09 - 2.95 |  |  |
|  |  | 18.5-24.9 | 1 (ref) |  | |  |  | 1 (ref) |  |  |  | 1 (ref) |  |  |  |
|  |  | 25-29.9 | 0.82 | 0.67 - 1.01 | |  |  | 0.87 | 0.40 - 1.19 |  |  | 0.82 | 0.63 - 1.06 |  |  |
|  |  | 30-34.9 | **0.75** | 0.59 - 0.95 | |  |  | 0.94 | 0.68 - 1.30 |  |  | **0.67** | 0.47 - 0.93 |  |  |
|  |  | ≥35 | 0.85 | 0.67 - 1.08 | |  |  | 0.93 | 0.64 - 1.35 |  |  | 0.88 | 0.64 - 1.21 |  |  |
|  |  | per 5 kg/m2 ∆ | **0.93** (0.87 - 0.95) | | | **0.02** |  | 0.98 (0.94 - 1.02) | | 0.42 |  | **0.90** (0.82 - 0.99) | | **0.04** |  |
|  | **Estrogen Receptor Status** | |  | |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Positive | 0.91 | 0.73 - 1.13 | | 0.37 |  | 0.90 | 0.66 - 1.23 | 0.51 |  | 0.93 | 0.69 - 1.24 | 0.62 |  |
|  |  | Negative | 1 (ref) |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1. Model adjusted for age, AJCC stage, insurance type, poverty in census tract of residence, education levels in census tract of residence, urbanicity of residence area, tumor grade, hormone receptor status, and comorbidity level. Survey sampling was stratified by tumor registry and by race/ethnicity. | | | | | | | | | | | | | |  |
|  | 2. p-value for trend, calculated from model using BMI as a continuous measure. | | | | | | | | | |  |  |  |  |  |

Supplement Table 5. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for All-Cause Mortality, Breast Cancer-Specific Mortality, and Non-Breast Cancer Mortality According to Body Mass Index (BMI) and Estrogen Receptor (ER) Status.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Supplement Table 6. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for All-Cause Mortality According to Body Mass Index, Stratified by Estrogen Receptor (ER) Status** | | | | | | | |  |
|  |  | |  |  |  | **All-Cause Mortality1** | | |  |
|  | N |  |  | HR | 95% CI | p-value for trend |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Estrogen Receptor Positive (N = 3752) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 49 |  |  | 1.33 | 0.74 - 2.36 | **0.03** |  |
|  |  | 18.5-24.9 | 1140 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 1106 |  |  | 0.90 | 0.70 - 1.17 |  |
|  |  | 30-34.9 | 772 |  |  | 0.78 | 0.58 - 1.05 |  |
|  |  | ≥35 | 694 |  |  | 0.86 | 0.64 - 1.16 |  |
|  | Estrogen Receptor Negative (N = 1399) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 23 |  |  | 1.57 | 0.67 - 3.68 | 0.22 |  |
|  |  | 18.5-24.9 | 406 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 411 |  |  | 0.72 | 0.51 - 1.03 |  |
|  |  | 30-34.9 | 317 |  |  | **0.66** | 0.44 - 0.99 |  |
|  |  | ≥35 | 246 |  |  | 0.86 | 0.55 - 1.34 |  |
|  | 1. Models adjusted for age, AJCC stage, insurance type, poverty in census tract of residence, education levels in census tract of residence, urbanicity of residence area, tumor grade, progesterone receptor status, and comorbidity level. Survey sampling was stratified by tumor registry and by race/ethnicity. | | | | | | | |  |
|  | 2. Category totals may not add up to total N as women with missing data for one or more covariates were excluded (total of 9 for ER positive, 4 for ER negative) | | | | | | | |  |
|  |  |  |  |  |  |  |  |  |  |

Supplement Table 6. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for All-Cause Mortality According to Body Mass Index, Stratified by Estrogen Receptor (ER) Status

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Supplement Table 7. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Breast Cancer Mortality According to Body Mass Index, Stratified by Estrogen Receptor (ER) Status** | | | | | | | |  |
|  |  | |  |  |  | **Breast Cancer Mortality1** | | |  |
|  | N |  |  | HR | 95% CI | p-value for trend |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Estrogen Receptor Positive (N = 3752) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 49 |  |  | 0.64 | 0.16 - 2.53 | 0.75 |  |
|  |  | 18.5-24.9 | 1140 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 1106 |  |  | 1.04 | 0.67 - 1.60 |  |
|  |  | 30-34.9 | 772 |  |  | 1.25 | 0.80 - 1.97 |  |
|  |  | ≥35 | 694 |  |  | 0.95 | 0.57 - 1.57 |  |
|  | Estrogen Receptor Negative (N = 1399) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 23 |  |  | (not estimable) |  | 0.58 |  |
|  |  | 18.5-24.9 | 406 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 411 |  |  | 0.76 | 0.49 - 1.19 |  |
|  |  | 30-34.9 | 317 |  |  | 0.67 | 0.41 - 1.10 |  |
|  |  | ≥35 | 246 |  |  | 0.87 | 0.51 - 1.49 |  |
|  | 1. Models adjusted for age, AJCC stage, insurance type, poverty in census tract of residence, education levels in census tract of residence, urbanicity of residence area, tumor grade, progesterone receptor status, and comorbidity level. Survey sampling was stratified by tumor registry and by race/ethnicity. | | | | | | | |  |
|  | 2. Category totals may not add up to total N as women with missing data for one or more covariates were excluded (total of 9 for ER positive, 4 for ER negative) | | | | | | | |  |
|  |  |  |  |  |  |  |  |  |  |

Supplement Table 7. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Breast Cancer Mortality According to Body Mass Index, Stratified by Estrogen Receptor (ER) Status

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Supplement Table 8. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Non-Breast Cancer Mortality According to Body Mass Index, Stratified by Estrogen Receptor (ER) Status** | | | | | | | |  |
|  |  | |  |  |  | **Non-Breast Cancer Mortality1** | | |  |
|  | N2 |  |  | HR | 95% CI | p-value for trend |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Estrogen Receptor Positive (N = 3752) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 49 |  |  | 1.60 | 0.84 - 3.07 | 0.07 |  |
|  |  | 18.5-24.9 | 1140 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 1106 |  |  | 0.86 | 0.63 - 1.16 |  |
|  |  | 30-34.9 | 772 |  |  | **0.62** | 0.42 - 0.92 |  |
|  |  | ≥35 | 694 |  |  | 0.95 | 0.67 - 1.36 |  |
|  | Estrogen Receptor Negative (N = 1399) | |  |  |  |  |  |  |  |
|  | Body Mass Index (kg/m2) | |  |  |  |  |  |  |  |
|  |  | < 18.5 | 23 |  |  | 3.26 | 1.28 - 8.27 | 0.58 |  |
|  |  | 18.5-24.9 | 406 |  |  | 1 (ref) |  |  |
|  |  | 25-29.9 | 411 |  |  | 0.72 | 0.40 - 1.30 |  |
|  |  | 30-34.9 | 317 |  |  | 0.70 | 0.32 - 1.51 |  |
|  |  | ≥35 | 246 |  |  | 0.77 | 0.31 - 1.88 |  |
|  | 1. Models adjusted for age, AJCC stage, insurance type, poverty in census tract of residence, education levels in census tract of residence, urbanicity of residence area, tumor grade, progesterone receptor status, and comorbidity level. Survey sampling was stratified by tumor registry and by race/ethnicity. | | | | | | | |  |
|  | 2. Category totals may not add up to total N as women with missing data for one or more covariates were excluded (total of 9 for ER positive, 4 for ER negative) | | | | | | | |  |
|  |  |  |  |  |  |  |  |  |  |

Supplement Table 8. Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Non-Breast Cancer Mortality According to Body Mass Index, Stratified by Estrogen Receptor (ER) Status