**Supplementary Materials**

***Table 4.1. Multiple regression results for mMRC (model 1), CAT (model 2), BI (model 3) and EQ-5D-3L (model 4), with counfonding variables***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Model 1.1* | *Model 1.2* | *Model 2.1* | *Model 2.2* | *Model 3.1* | *Model 3.2* | *Model 4.1* | *Model 4.2* |
| R2  aR2 | 0.273  0.235 | 0.292  0.254 | 0.220  0.179 | 0.275  0.237 | 0.173  0.129 | 0.238  0.198 | 0.222  0.181 | 0.314  0.277 |
|  | *β coefficient* | | | | | | | |
| Age | 0.023\* | 0.022\* | 0.100 | 0.095 | -0.279 | -0.271 | -0.013 | -0.011 |
| Gender (Male) | 0.181 | 0.213 | -0.515 | -0.214 | 2.063 | 1.429 | 0.387 | 0.304 |
| GOLD Class 2 | 0.647\* | 0.675\* | 3.879 | 4.158\* | 0.489 | -0.183 | -0.324 | -0.405 |
| GOLD Class 3 | 1.02\*\*\* | 1.03\*\*\* | 6.096\*\* | 6.134\*\* | -12.05\* | -11.48\* | -1.060 | -1.048 |
| GOLD Class 4 | 1.27\*\* | 1.197\* | 6.079 | 5.310 | 3.329 | 5.309 | -0.019 | 0.209 |
| MNA-Short Form | -0.135\*\*\* | - | -1.075\*\*\* | - | 1.424\* | - | 0.273\*\*\* | - |
| MNA-Total Score | - | -0.095\*\*\* | - | -0.844\*\*\* | - | 1.605\*\*\* | - | 0.231\*\*\* |

*Supplementary Table 3. \* p<0.05; \*\* p<0.01; \*\*\* p<0.001; An increase of 1 point is intended for continuous variables, except for model 4 (0.1-point increase); mMRC: modified Medical Research Council; CAT: COPD Assessment Test; R2: coefficient of determination; aR2: adjusted R2; MNA: Mini Nutritional Assessment; EQ-5D-3L: EuroQol 5D 3 level;*

***Table 5.1.* *Results of multivariate Cox regression analysis according to the nutritional status (MNA-Short form)***

|  |  |  |
| --- | --- | --- |
|  | Hazard Ratio (95% CI) | p-value |
| Gender (Female) | *Group reference* |  |
| Gender (Male) | 0.885 (0.492-1.592) | 0.685 |
| Age (1-point increase) | 0.982 (0.952-1.013) | 0.271 |
| GOLD Class 1 | *Group reference* |  |
| GOLD Class 2 | 1.111 (0.366-3.371) | 0.852 |
| GOLD Class 3 | 2.066 (0.699-6.105) | 0.293 |
| GOLD Class 4 | 3.400 (0.835-13.838) | 0.087 |
| CAT<10 | *Group reference* |  |
| CAT≥10 | 1.68 (0.681-4.164) | 0.259 |
| Normal nutritional status  (MNA-SF=12-14) | *Group reference* |  |
| At risk of malnutrition  (MNA-SF=8-11) | **4.01 (1.48-10.85)** | **0.006** |
| Malnourished (MNA-SF=0-8) | **7.47 (2.63-21.21)** | **0.0001** |

*Supplementary Table 5.1: statistically significant results are in bold. Results are presented as Hazard Ratio with 95% confidence intervals (CIs) and P values. GOLD: Global Initiative for Chronic Obstructive Lung Disease; CAT: COPD Assessment Test; MNA-TS: Mini Nutritional Assessement Total score;*

***Table 5.2.* *Results of multivariate Cox regression analysis according to the nutritional status (MNA-Total score)***

|  |  |  |
| --- | --- | --- |
|  | Hazard Ratio (95% CI) | p-value |
| Gender (Female) | *Group reference* |  |
| Gender (Male) | 0.958 (0.534-1.721) | 0.886 |
| Age (1-point increase) | 0.983 (0.952-1.015) | 0.291 |
| GOLD Class 1 | *Group reference* |  |
| GOLD Class 2 | 1.249 (0.423-3.689) | 0.688 |
| GOLD Class 3 | 2.066 (0.699-6.105) | 0.19 |
| GOLD Class 4 | **5.398 (1.405-20.74)** | **0.014** |
| CAT<10 | *Group reference* |  |
| CAT≥10 | 1.87 (0.754-4.638) | 0.177 |
| Normal nutritional status  (MNA-TS=24-30) | *Group reference* |  |
| At risk of malnutrition  (MNA-TS=17-23.5) | **3.547 (1.59-7.913)** | **0.002** |
| Malnourished (MNA-TS=0-17) | **8.207 (3.105-21.695)** | **0.0001** |

*Supplementary Table 5.2: statistically significant results are in bold. Results are presented as Hazard Ratio with 95% confidence intervals (CIs) and P values. GOLD: Global Initiative for Chronic Obstructive Lung Disease; CAT: COPD Assessment Test; MNA-TS: Mini Nutritional Assessement Total score;*

***Table 6.1.* *Results of multivariate Cox regression computing MNA-SF as continuous variables***

|  |  |  |
| --- | --- | --- |
|  | Hazard Ratio (95% CI) | p-value |
| Gender (Female) | *Group reference* |  |
| Gender (Male) | 0.898 (0.498-1.619) | 0.723 |
| Age (1-point increase) | 0.983 (0.952-1.015) | 0.262 |
| GOLD Class 1 | *Group reference* |  |
| GOLD Class 2 | 1.249 (0.423-3.689) | 0.651 |
| GOLD Class 3 | 2.066 (0.699-6.105) | 0.237 |
| **GOLD Class 4** | **5.398 (1.405-20.74)** | **0.022** |
| CAT<10 | *Group reference* |  |
| CAT≥10 | 1.87 (0.754-4.638) | 0.113 |
| **MNA-SF (1-point increase)** | **0.79 (0.70-0.89)** | **0.0001** |

*Supplementary Table 6.1: statistically significant results are in bold. Results are presented as Hazard Ratio with 95% confidence intervals (CIs) and P values. GOLD: Global Initiative for Chronic Obstructive Lung Disease; CAT: COPD Assessment Test; MNA-TS: Mini Nutritional Assessement Total score;*

***Table 6.2.* *Results of multivariate Cox regression computing MNA-TS as continuous variables***

|  |  |  |
| --- | --- | --- |
|  | Hazard Ratio (95% CI) | p-value |
| Gender (Female) | *Group reference* |  |
| Gender (Male) | 0.945 (0.525-1.701) | 0.853 |
| Age (1-point increase) | 0.982 (0.951-1.014) | 0.275 |
| GOLD Class 1 | *Group reference* |  |
| GOLD Class 2 | 1.410 (0.475-4.181) | 0.535 |
| GOLD Class 3 | 2.098 (0.712-6.179) | 0.178 |
| **GOLD Class 4** | **4.35 (1.141-16.63)** | **0.031** |
| CAT<10 | *Group reference* |  |
| CAT≥10 | 1.87 (0.754-4.638) | 0.113 |
| **MNA-TS (1-point increase)** | **0.86 (0.80-0.93)** | **0.0001** |

*Supplementary Table 6.2: statistically significant results are in bold. Results are presented as Hazard Ratio with 95% confidence intervals (CIs) and P values. GOLD: Global Initiative for Chronic Obstructive Lung Disease; CAT: COPD Assessment Test; MNA-TS: Mini Nutritional Assessement Total score;*