Supplementary Table 1. Characteristics of 344 participants according to the presence of depression (30 item GDS ≥ 11).

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|  | Depressed  (n =163) | Non depressed (n =181) | P |
| ***Demographics & lifestyle habits*** |
| Age (years) | 80 ± 5 | 79 ± 5 | .148 |
| Sex (female) | 114 (70%) | 73 (40%) | <.0001 |
| Education (years) | 4 (2 – 5) | 5 (3 – 5) | <.0001 |
| Smoking a | 2599 (730 - 7884) | 7370 (1323 – 11588) | <.0001 |
| Current alcohol consumption  | 101 (62%) | 142 (78%) | .001 |
| Income, perceived as adequate | 119 (72%) | 151 (85%) | .003 |
| Living alone | 58 (36%) | 40 (22%) | .006 |
| ***Comorbid conditions***  |
| Chronic pulmonary disease | 46 (28%) | 43 (24%) | .389 |
| Diabetes | 45 (28%) | 31 (17%) | .027 |
| Heart failure | 40 (24%) | 25 (14%) | .013 |
| Coronary disease | 31 (19%) | 34 (19%) | .999 |
| Stroke or Transient Ischemic Attack | 21 (13%) | 18 (10%) | .401 |
| Dyshtyroidism | 3 (2%) | 4 (2%) | .998 |
| Renal disease | 9 (5%) | 4 (2%) | .156 |
| Hepatic disease | 10 (6%) | 3 (2%) | .044 |
| Parkinson’s disease | 9 (5%) | 3 (2%) | .076 |
| Peptic disease | 62 (38%) | 42 (23%) | .003 |
| Malignancy | 18 (11%) | 14 (8%) | .354 |
| ***Medications***  |
| Beta-blockers  | 7 (4%) | 9 (5%) | .803 |
| SSRIb | 9 (5%) | 4 (2%) | .156 |
| Benzodiazepines | 35 (21%) | 38 (21%) | .999 |
| Corticosteroids | 9 (5%) | 3 (2%) | .075 |
| Loop diuretics | 42 (26%) | 26 (14%) | .010 |
| NSAIDSc | 15 (9%) | 10 (5%) | .216 |
| Digoxin | 25 (15%) | 23 (13%) | .534 |
| Oral antidiabetics | 30 (18%) | 20 (11%) | .066 |
| Levodopa | 4 (2%) | 2 (1%) | .428 |
| Statins  | 11 (7%) | 22 (12%) | .101 |
| Oral anticoagulants | 6 (4%) | 12 (7%) | .237 |
| Antiplatelet agents | 21 (13%) | 21 (12%) | .744 |
| Proton pump inhibitors | 30 (18%) | 14 (8%) | .004 |
|  |  | *Continued* |
| H2-receptor antagonists  | 2 (1%) | 6 (3%) | .289 |
| Antacids | 7 (4%) | 5 (3%) | .560 |
| Total number of drugs | 2 (1-4) | 2 (1-3) | .019 |
| ***Biohumoral, physical and cognitive parameters parameters*** |
| Body Mass Index (Kg/m2) | 28.4 ± 5.5 | 28.4 ± 4.1 | .919 |
| Hemoglobin (g/dl) | 13.8 ± 1.6 | 14.6 ± 1.6 | <.0001 |
| Total proteins (g/dL) | 7.6 ± 0.6 | 7.6 ± 0.5 | .386 |
| C Reactive Protein (mg/dL) | 0.8 ± 1.8 | 0.6 ± 1.2 | .147 |
| Hodkinson Abbreviated Mental Test | 7 ± 2 | 8 ± 1 | <.0001 |
| ADLsd | 4 ± 2 | 5 ± 1 | <.0001 |
| Physical Activity Scale for the Elderly | 147 ± 56 | 161 ± 60 | .022 |

a Total lifetime pack years. b Selective Serotonin Reuptake Inhibitor. c Non steroidal antiflammatory drugs. d Katz’s Activities of Daily Living

Supplementary Table 2. Adjusted association (Odds Ratios, OR, and 95% confidence intervals, CI) of increasing depressive symptoms and use of PPIs according to bynary and multinomial logistic regression analysis.\* All the covariates were entered simultaneously into the regression model.

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|  | **Use of Proton Pump Inhibitors** |
| **Binary Logistic regression** | OR | 95% CI | P |
| GDS ≥ 11 | 2.38 | 1.02 - 5.58 | .045 |
| **Multinomial logistic regression** |  |  |  |
| GDS cut-off 0-10 (no depression, n=169) | 1 |  |  |
| GDS cutoff 11-20 (mild depression, n= 141) | 2.54 | 1.09 – 5.93 | .031 |
| GDS cut-off 21-30 (severe depression, n= 34) | 4.64 | 1.39 – 6.53 | .013 |

\* Adjusted for: age, sex, education level, current alcohol consumption, income perceived as adequate, diagnosis of stroke or Transiet Ischemic Attack, hepatic disease, and peptic disease, use of loop diuretics, hemoglobin levels, and Katz’s Activities of Daily Living.