

eTable 4. Prevalence ratio and confidence intervals for heart diseases and stroke in men

| Variable | Crude Models | | Model 1 | | Model 2 | |
|--|-------------------------------|-----------------------|-------------------------------|-----------------------|------------------------------|-----------------------|
| | Heart diseases PR (95% CI) | Stroke PR (95% CI) | Heart diseases PR (95% CI) | Stroke PR (95% CI) | Heart disease PR (95% CI) | Stroke PR (95% CI) |
| Cardiovascular diseases | | | | | | |
| Hypertension | 1.17 (0.99-1.38) | 1.15 (0.87-1.52) | 1.20 (1.02-1.42) | 1.22 (0.92-1.62) | 1.20 (1.01-1.42) | 1.23 (0.92-1.63) |
| Hyperlipidemia | 1.40 (1.26-1.55) | 2.18 (1.81-2.64) | 1.32 (1.18-1.47) | 2.11 (1.73-2.56) | 1.32 (1.18-1.47) | 2.10 (1.73-2.55) |
| Frequency of laughing per month | | | | | | |
| Never or almost never | 1.31 (1.10-1.56) | 2.02 (1.53-2.65) | 1.12 (0.93-1.34) | 1.54 (1.15-2.07) | 1.11 (0.92-1.34) | 1.47 (1.09-1.97) |
| 1-3 days per month | 1.19 (1.02-1.40) | 1.45 (1.11-1.90) | 1.12 (0.95-1.32) | 1.28 (0.97-1.68) | 1.12 (0.95-1.32) | 1.27 (0.96-1.67) |
| 1-5 days per week | 1.05 (0.93-1.19) | 1.06 (0.84-1.33) | 1.04 (0.91-1.18) | 1.02 (0.81-1.28) | 1.04 (0.91-1.17) | 1.01 (0.81-1.27) |
| Almost everyday | Ref | Ref | Ref | Ref | Ref | Ref |
| Depression | | | | | | |
| GDS score ≥ 5 | 1.46 (1.29-1.67) | 1.92 (1.56-2.37) | 1.32 (1.15-1.51) | 1.50 (1.19-1.88) | 1.32 (1.14-1.51) | 1.43 (1.14-1.79) |
| GDS score < 5 | Ref | Ref | Ref | Ref | Ref | Ref |
| Age, years | | | | | | |
| 65-69 | Ref | Ref | Ref | Ref | Ref | Ref |
| 70-74 | 1.49 (1.28-1.74) | 1.50 (1.15-1.94) | 1.44 (1.23-1.68) | 1.42 (1.09-1.84) | 1.44 (1.23-1.68) | 1.42 (1.09-1.85) |
| 75-79 | 1.88 (1.61-2.20) | 1.79 (1.37-2.34) | 1.74 (1.48-2.03) | 1.53 (1.17-2.02) | 1.74 (1.48-2.04) | 1.54 (1.17-2.02) |
| ≥ 80 | 2.13 (1.82-2.50) | 1.95 (1.48-2.58) | 1.95 (1.66-2.31) | 1.58 (1.18-2.11) | 1.96 (1.66-2.31) | 1.55 (1.16-2.08) |
| Body mass index | | | | | | |
| 1st quintile | 1.03 (0.86-1.23) | 1.02 (0.76-1.37) | 1.02 (0.85-1.22) | 1.06 (0.79-1.43) | 1.02 (0.85-1.22) | 1.04 (0.77-1.40) |
| 2nd quintile | 1.00 (0.83-1.19) | 1.04 (0.77-1.39) | 0.98 (0.82-1.18) | 1.04 (0.78-1.40) | 0.98 (0.82-1.18) | 1.04 (0.77-1.39) |
| 3rd quintile | Ref | Ref | Ref | Ref | Ref | Ref |
| 4th quintile | 1.16 (0.98-1.38) | 0.89 (0.66-1.21) | 1.14 (0.96-1.36) | 0.86 (0.64-1.17) | 1.14 (0.96-1.36) | 0.86 (0.63-1.16) |
| 5th quintile | 1.43 (1.21-1.69) | 1.13 (0.85-1.51) | 1.36 (1.15-1.61) | 1.00 (0.75-1.34) | 1.36 (1.15-1.61) | 0.99 (0.74-1.32) |

| | | | | | | |
|---|------------------|------------------|------------------|------------------|------------------|------------------|
| Missing data | 1.26 (0.93-1.69) | 0.88 (0.50-1.54) | 1.04 (0.77-1.40) | 0.68 (0.38-1.20) | 1.04 (0.77-1.40) | 0.67 (0.38-1.18) |
| Alcohol consumption | | | | | | |
| Never or almost never | Ref | Ref | Ref | Ref | Ref | Ref |
| Stopped drinking | 1.12 (0.94-1.34) | 1.91 (1.44-2.53) | 0.99 (0.83-1.20) | 1.59 (1.18-2.15) | 0.99 (0.82-1.20) | 1.59 (1.18-2.15) |
| Drinking | 0.69 (0.61-0.77) | 0.91 (0.74-1.12) | 0.71 (0.64-0.80) | 0.92 (0.74-1.14) | 0.71 (0.63-0.80) | 0.94 (0.76-1.17) |
| Missing data | 0.30 (0.13-0.73) | 1.13 (0.46-2.75) | 0.27 (0.09-0.86) | 1.21 (0.30-4.97) | 0.27 (0.09-0.86) | 1.23 (0.30-5.09) |
| Smoking habit | | | | | | |
| Never or almost never | Ref | Ref | Ref | Ref | Ref | Ref |
| Stopped smoking | 1.05 (0.94-1.18) | 1.16 (0.95-1.42) | 1.11 (0.98-1.25) | 1.05 (0.85-1.30) | 1.11 (0.98-1.25) | 1.05 (0.85-1.30) |
| Currently smoking | 0.57 (0.48-0.68) | 0.68 (0.51-0.91) | 0.67 (0.56-0.80) | 0.72 (0.54-0.97) | 0.67 (0.56-0.80) | 0.71 (0.53-0.95) |
| Missing data | 0.51 (0.25-1.01) | 1.01 (0.42-2.45) | 1.05 (0.42-2.61) | 0.85 (0.21-3.45) | 1.05 (0.42-2.63) | 0.84 (0.20-3.48) |
| Physical activity | | | | | | |
| Less than once per week | 1.16 (1.02-1.32) | 1.49 (1.20-1.85) | 1.06 (0.93-1.21) | 1.32 (1.05-1.64) | 1.06 (0.93-1.21) | 1.25 (1.00-1.57) |
| Once or more per week | Ref | Ref | Ref | Ref | Ref | Ref |
| Missing data | 1.04 (0.87-1.23) | 1.57 (1.21-2.05) | 0.90 (0.75-1.07) | 1.41 (1.08-1.86) | 0.91 (0.76-1.08) | 1.38 (1.05-1.82) |
| Frequency of social participation per year | | | | | | |
| 1st quartile | 1.15 (0.98-1.35) | 1.87 (1.40-2.49) | | | 1.00 (0.85-1.18) | 1.47 (1.09-1.99) |
| 2nd quartile | 1.01 (0.86-1.20) | 1.39 (1.02-1.90) | | | 0.97 (0.81-1.15) | 1.26 (0.92-1.73) |
| 3rd quartile | 1.01 (0.84-1.20) | 0.95 (0.67-1.35) | | | 1.00 (0.84-1.20) | 0.90 (0.63-1.29) |
| 4th quartile | Ref | Ref | | | Ref | Ref |
| Missing data | 1.04 (0.88-1.23) | 1.42 (1.04-1.94) | | | 0.96 (0.80-1.14) | 1.21 (0.88-1.67) |

CI, confidence interval; GDS, Geriatric Depression Scale; PR, prevalence ratio.

In model 1, we controlled for risk factors of diseases, laughter, depression, age, body mass index, drinking habit, smoking habit, and physical activity.

In model 2, social participation was added to the variables.