**Supplementary Digital Content 1.** STROBE Statement

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| **Section/Topic** | Item # | Recommendation | Reported on page # |
|  **Title and abstract** | 1 | (*a*) Indicate the study’s design with a commonly used term in the title or the abstract | Page 1 |
| (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found | Page 2 |
| Introduction |  |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | Page 3-4 |
| Objectives | 3 | State specific objectives, including any pre-specified hypotheses | Page 3-4 |
| Methods |  |
| Study design | 4 | Present key elements of study design early in the paper | Study population  |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | Study population  |
| Participants | 6 | (*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up | Study population  |
| (*b*)For matched studies, give matching criteria and number of exposed and unexposed | Not applicable |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable | Methods |
| Data sources/ measurement | 8\* | For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group | Methods |
| Bias | 9 | Describe any efforts to address potential sources of bias | Statistical analyses |
| Study size | 10 | Explain how the study size was arrived at | Statistical analyses |
| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why | Statistical analyses |
| Statistical methods | 12 | (*a*) Describe all statistical methods, including those used to control for confounding | Statistical analyses |
| (*b*) Describe any methods used to examine subgroups and interactions | Statistical analyses |
| (*c*) Explain how missing data were addressed | Not applicable |
| (*d*) If applicable, explain how loss to follow-up was addressed | Not applicable |
| (*e*) Describe any sensitivity analyses | Statistical analyses |
| Results |  |
| Participants | 13\* | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed | Study population  |
|  |  | (b) Give reasons for non-participation at each stage | Study population  |
|  |  | (c) Consider use of a flow diagram | Not applicable |
| Descriptive data | 14\* | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders | Results; Table 1 |
|  |  | (b) Indicate number of participants with missing data for each variable of interest |  |
|  |  | (c) Summarise follow-up time (eg, average and total amount) | Results |
| Outcome data | 15\* | Report numbers of outcome events or summary measures over time | Results |
| Main results | 16 | (*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included | Results; Tables 2-3; Figures 1-2 |
|  |  | (*b*) Report category boundaries when continuous variables were categorized | Results; Tables 2-3; Figures 1-2 |
|  |  | (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period |  |
| Other analyses | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses | Results; Figure 2; Supplementary Digital Content 3 |
| Discussion |  |  |  |
| Key results | 18 | Summarise key results with reference to study objectives | Discussion - Summary of main findings |
| **Limitations** |  |  |  |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence | Discussion |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results | Discussion |
| Other information |  |  |  |
| Funding | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based | Page 13 |

**Supplementary Digital Content 2.** Participant flow through the study



Abbreviations: CRF, cardiorespiratory fitness; T2D, type 2 diabetes

**Supplementary Digital Content 3.** Association between percentage of age-predicted CRF and incident type 2 diabetes, on excluding the first 5 yr of follow-up

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Percentage of age-predicted CRF**  | **Events/****Total** | **Model 1** |  | **Model 2** |  |
|  |  | HR (95% CI) | *P-*value | HR (95% CI) | *P*-value |
| Per 1 SD increase | 215 / 1,808 | 0.67 (0.58-0.78) | <.001 | 0.69 (0.59-0.80) | <.001 |
| Tertile 1 (16.95-78.87) | 90 / 603 | ref |  | ref |  |
| Tertile 2 (78.88-95.31) | 80 / 603 | 0.91 (0.66-1.24) | .54 | 0.94 (0.68-1.28) | .69 |
| Tertile 3 (>95.31) | 45 / 602 | 0.49 (0.33-0.71) | <.001 | 0.52 (0.35-0.76) | .001 |

Abbreviations: CRF, cardiorespiratory fitness; ref, reference.

Model 1: Adjusted for systolic blood pressure, smoking status, total cholesterol, high-density lipoprotein cholesterol, fasting plasma glucose, family history of type 2 diabetes and history of hypertension

Model 2: Model 1 plus alcohol consumption, socioeconomic status and physical activity