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Article title:  
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Abstract (usually about 250 words)  
Background: [Describe the problem and the gaps]

Aim:

Methods:

Results:

Conclusion:

Key Words: [use MESH terms]

1. Introduction (1 to 2 pages, incorporate the key references):



* 1. Description of the magnitude of the **problem.**

Describe the **consequences of the subject** that you are going to address. These consequences are usually represented as a burden, measured by mortality, disability-adjusted life year (DALY), prevalence, costs, etc. An option is to start globally and then narrow to your context, or you can go directly to your context.

* 1. Description of the **subject,** which is usually a disease or risk factor.

Describe what is known about the **subject**, especially in the **context** in which you are addressing it.

* 1. Gap of Knowledge

Describe the gap of knowledge in the context. Reply to the question: “What *is ignored about the subject in this context*". Words like “however”, “but”, “nevertheless”, or other synonymous, highlight in the introduction that the gap is going to be described.

* 1. Aims

Describe the aim that is going to address the gap exposed.

Example article: [Sugar-sweetened beverage taxes in Europe: learning for the future.](https://academic.oup.com/eurpub/article/32/2/273/6537502)

1. Methods [see document of Variables Definition]

Design and Population:

The study design, sampling, and implementation were described previously.[6](#_ENREF_6) In brief, Kardiovize is a prospective population-based study with a random sample of 1% of the adult population of Brno, stratified by sex and gender between 25 to 64-year-old.[6](#_ENREF_6) The recruitment and core baseline examinations were completed in 2014. Brno is the second largest city in the Czech Republic (after Prague), with 373,327 residents in 2013. Eligibility criteria included permanent residence in Brno, and registration (required by the law) with any of the five state-run health insurance companies operating in the Czech Republic.

Sampling and Recruitment:

Survey sampling was done in January 2013 with the technical assistance from the largest (state-run) health insurance company using the registries of all health insurance companies, except one that declined to cooperate (thus excluding 8.9% of the population). A random stratified sample of 3300 persons adjusted for a response rate of 64.4% was drawn from the registries. The health insurance companies mailed invitation letters with a description of the study goals while ensuring the confidentiality of personal information. The invitation letters were mailed in January 2013, with two reminder mailings. Following the same procedure, another random sample of 3077 was selected in April 2014; the study target of 1% of the adult urban population was met on 19 December 2014. Based on the two samplings with a total of 6,377 randomly selected invitees, the overall response rate was 33.9%. No information on non-respondents was available due to confidentiality restrictions. A total of 2160 individuals were enrolled.[6](#_ENREF_6) For this analysis subjects with type 1 diabetes were excluded.

Data Collection:

The baseline health assessment face-to-face health interview, and comprehensive questionnaire was performed by trained nurses and physicians at the International Clinical Research Center of the St Anne’s University Hospital in Brno, who also entered the collected data into the web-based research electronic data capture (REDCap) database. Questionnaire included demographics, socioeconomic status (age, gender, education, household income, and occupation), cardiovascular risk behaviors (smoking status, nutrition, alcohol consumption, and physical activity), history (family and personal, medications, and hospitalizations), mental health (depression, stress level) and a food frequency questionnaire. Laboratory analyzes were performed on 12-hour fasting whole blood samples using a Modular SWA P800 analyzer (Roche, Basel, Switzerland), total cholesterol, triglycerides, glucose and creatinine were analyzed by the enzymatic colorimetric method (Roche Diagnostics GmbH, Mannheim, Germany), HDL-cholesterol was analyzed with the homogeneous method for direct measurement without precipitation (Sekisui Medical, Hachimantai, Japan). The LDL cholesterol level was calculated according to the Friedewald equation when triglyceride levels were below 4.5 mmol/L; if it was higher, LDL cholesterol was analyzed using the homogeneous method for direct measurement (Sekisui Medical, Hachimantai, Japan). Urinary albumin was analyzed by immunoturbidimetry (Roche Diagnostics GmbH, Mannheim, Germany) in a punctual morning urine sample, and the urinary albumin/creatinine ratio was calculated. Blood pressure was measured with the patient alone using an automated office measurement device (BpTRU, model BPM 200; Bp TRU Medical Devices Ltd., Canada). The anthropometric assessment included height and weight measurements using a medical digital scale with meter (SECA 799; SECA, GmbH and Co. KG, Germany) and manual tape measurement of waist, hip and neck circumference. Weight and body composition analyses were done with a balance with bioelectrical impedance analysis (InBody 370; BIOSPACE Co., Ltd., Korea). For the ankle brachial index (ABI) was calculated as the ratio of the highest registered measurements of ankle and brachial blood pressures (REF table variables); ankle and brachial pressures were measured with patients lying in the supine position using a DESCRIBE VASERA. To measure intima-media thickness (IMT) ultrasound measurements were acquired with the ESAOTE MyLabClassC ultrasound (ESAOTE S.p.A, Genova, Italy) using the LA523 4-13MHz linear transducer. Both left and right Common Carotid Arteries were measured, 1 cm proximal to their bifurcation. Evaluation of the IMT was performed by semi-automated ESAOTE MyLabClassC software using patented methods of analyzing RF data from the B-mode images. (**REF Association of Cardiovascular Health with Epicardial Adipose Tissue and Intima Media Thickness: The Kardiovize Study**)

Variables Definition:

Dysglycemia-Based Chronic Disease (DBCD)[5](#_ENREF_5) was defined as: DBCD Stage 1 “Insulin Resistance” (abdominal obesity or family history of diabetes); Stage 2 “Prediabetes” (fasting blood glucose between 5.6 to 6.9 mmol/L); Stage 3 “T2D” (personal history of T2D or fasting blood glucose ≥ 7 mmol/L); and Stage 4 “Vascular Complications” (T2D with CVD). Awareness of T2D and prediabetes was defined as the proportions of subjects that known their condition. T2D controlled were considered as those with personal history of T2D and fasting blood glucose < 7.0 mmol/L. Abdominal Obesity was defined as waist circumference ≥ 94 in men and ≥ 80 in women (**REF 2015;8(6):402-24. doi:10.1159/000442721)**. Nutritional state was categorized according to the body mass index (BMI) as normal weight < 24.9 kg/m2, overweight = 25–29.9 kg/m2, and obesity ≥ 30 kg/m2. Hypertension was defined as systolic blood pressure ≥ 140 mmHg or ≥ diastolic 90 mmHg or personal history of hypertension or use of antihypertensive medication.[7](#_ENREF_7) High cholesterol was defined as total cholesterol ≥ 5.0 mmol/L. High low-density lipoprotein cholesterol (LDL-c) as LDL-c ≥ 3.3 mmol/L not correct, check table of definitions. High triglycerides as triglycerides ≥ 1.7 mmol/L. Low high-density lipoprotein cholesterol (HDL-c) as HDL-c ≤ 1 mmol/L in men or ≤ 1.2 mmol/L.

CVD was defined as any of the following: 1) self-report of ischemic heart disease, stroke, or claudication; 2) presence of peripheral artery disease, defined as those subjects with an ankle-brachial index <0.9; 3) carotid IMT thickness increased, defined as those subjects with 0.9 mm or more of the maximum measured value of IMT on both carotid; 4) chronic kidney disease, defined as those with a glomerular filtration rate (GFR) ˂ 60 ml/min/173m2; 5) microalbuminuria defined as albumin-to-creatinine ratio (ACR) between 30 to 300 (μg albumin/mg creatinine) and macroalbuminuria as ACR ˃ 300 (μg albumin/mg creatinine).[5](#_ENREF_5) Smoking status was categorized into never smokers, as those having smoked fewer than 100 cigarettes in a lifetime; former smokers as those having stopped smoking in the past year; current smokers as those smoking either daily or less than daily in the past year. Physical activity was used International Questionnaire of Physical Activity (IPAQ) long version. Subjects were categorized as “active” participated in vigorous-intensity activity on at least 3 days achieving a minimum of at least 1500 MET-minutes/week, or 7 or more days of any combination of walking, moderate-intensity, or vigorous intensity activities, achieving a minimum of at least 3000 MET-minutes/week. Subjects categorized as “minimally active” participated in 3 or more days of vigorous activity of at least 20 minutes per day, or 5 or more days of moderate-intensity activity or walking of at least 30 minutes per day, or 5 or more days of any combination of walking, moderate-intensity, or vigorous intensity activities achieving a minimum of at least 600 MET-min/week26. Subjects categorized as “inactive” did not participated in any of the activities above. **(REF. Polito A, Intorre F, Ciarapica D, et al. Physical activity assessment in an Italian adult population using the international physical activity questionnaire. Obes Res Open J. 2016; 3(3): 43-52. doi: 10.17140/OROJ-3-127).**

Ethics Approval:

Study protocol complied with the Helsinki declaration and all participants signed the informed consent. The Kardiovize study was approved by the ethics committee of St Anne’s University Hospital, Brno, Czech Republic (Ref. Number: 2G/2012).

Statistical Analysis:

1. Results

The results must be clear and concise. They should always be written in the past tense. Analyze the results critically, use logical titles and subtitles while writing the results. I advise you to print the results, analyze them in detail, take your time, highlight the positive findings with a pen and then do the writing.

Tables and Figures

Put tables and figures as editable text and not as images. Tables and figures should be placed following the relevant text in the article. List them consecutively according to their appearance in the text and place the notes of the table below the body of the table. Pay close attention to the use of the tables (and figures) and make sure that the data presented in them does not duplicate the results described elsewhere in the article. Avoid using vertical lines and shading in table cells.

Evaluate the following table and use it as a model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 1: Subject characteristics** | | |  | |  |
|  | Men | Women | | Total | |
| Participants (n, %) | 412 (31.2) | 908 (68.8) | | 1320 (100) | |
| Age (years) | 45.8 ± 0.73 | 44.4 ± 0.46 | | 44.8 ± 0.39 | |
| Weight (kilograms)\* | 80.1 ± 0.80 | 67.9 ± 0.48 | | 71.7 ± 0.44 | |
| Height (meters)\* | 1.69 ± 0.00 | 1.56 ± 0.00 | | 1.60 ± 0.00 | |
| BMI (kilograms/meters2) | 27.7 ± 0.25 | 27.6 ± 0.17 | | 27.6 ± 0.14 | |
| Waist Circumference\* | 96.4 ± 0.65 | 89.8 ± 91.9 | | 91.9 ± 0.35 | |
| Body fat %\* | 26.2 ± 0.70 | 33.6 ± 0.38 | | 31.5 ± 0.37 | |
| Data are mean ± SEM. Abbreviation: BMI: body mass index. Differences were assessed with t-student test. \*Difference between genders p < 0.001 | | | | | |

1. Discussion

4.1 Internal Validation: provide a general interpretation of the results. In this paragraph you show that your results make sense. Summarize the key results with reference to the objectives of the study. Provide a cautious general interpretation of the results considering the objectives, limitations, multiplicity of analysis, results of general studies and other relevant evidence. Make sure that you are answering the aims proposed in this paragraph.

4.2 External Validation of the results: In this paragraph you will compare your results with similar previous report, this will allow you to express that your results make sense with other report.

4.3 Pathophysiological explanation – provide a summary of how the exposure can explain the outcome – biological plausibility.

1. Limitations

Discuss the limitations and strengths of the study taking into account the source of potential biases or inaccuracies. Discuss both the directions and the magnitude of any potential bias. Example of a limitation section:

“Some limitations of this study deserve to be mentioned. To diagnose DBCD stage 1, genetic and molecular risk determinants for insulin resistance, and in utero exposure to gestational diabetes were not determined. Oral glucose tolerance test (OGTT) was not realized to diagnose impaired glucose tolerance, and A1c levels were not available to evaluate rate of control. The cross-sectional design of the study does not allows determine causality or predictive value of each stages. On the other hand, the representative random selection of the population, the extensive and rigours measurement of risk factors, including automated blood pressure office, renal function, ABI, and IMT, increased the detection of subjects with CVD. Currently, this team in Kardiovize is collecting the follow up evaluation of the participants, future analysis will allow to estimate the predictive risk associated to each DBCD stages.”

1. Conclusions

Provide a clear and fair conclusion of your results, be sure that you are providing the answer to the aims proposed. Avoid provide comments not related to the aims or results of this projetc.

1. Acknowledgments

The authors are grateful to all participants of the study. They want to extend their gratitude and appreciation to all members of the Kardiovize team.

1. Source of funding

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1. Disclosures

None to declare.

1. References