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Cardiovascular disease risk of Australians following plant-based dietary patterns compared to regular meat eaters: preliminary results from the Plant-based Diet Cohort Study

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The adoption of dietary patterns emphasising higher intakes of plant foods and lower intakes of animal foods (plant-based diets), are on the rise across the globe. This shift is driven by animal welfare and ethical concerns, environmental benefits, perceived healthiness, and the overall positive perception by the public. Plant-based diets (PBDs) have been associated with a lower risk of cardiovascular morbidity and mortality as well as major risk factors such as overweight/obesity and type 2 diabetes.⁽¹⁾ Despite growing adoption, evidence regarding the dietary profile, nutritional adequacy and risk of disease associated with following different types of PBDs in comparison to traditional meat-eating diets are scarce within the Australian population. The aim of this study is to investigate the 10-year and 5-year risk of developing cardiovascular disease (CVD) among Australians following various PBDs compared to a regular meat diet (RMD). This is a cross-sectional cohort study consisting of healthy adults aged between 35–70 years from the Hunter region (NSW). Individuals are eligible if they are habitually consuming one of the following dietary patterns for at least the last 6 months: vegan (nil animal products), lacto-vegetarian (including milk/dairy products), pesco-vegetarian (including fish and seafood with/without dairy and eggs), semi-vegetarian (minimal and/or infrequent consumption of animal flesh) or RMDs (including animal meat daily or multiple times/day). 10-year and 5-year CVD risk will be quantified using the Framingham Risk Equation⁽²⁾ and the Australian absolute CVD risk calculator,⁽³⁾ respectively. The primary outcome is 10-year risk of developing CVD and secondary outcomes include body composition and bone density (DXA); qualitative and quantitative dietary intake (Australian Eating Survey and diet histories); biochemical measures; medical and demographic history, and physical activity (questionnaires). A total of 240 participants (48 per group) will be recruited to investigate the 10-year and 5-year risk of developing CVD across PBDs and RMD. One-way ANOVA or Kruskal Wallis will be used for comparing CVD risk scores across groups and Tukey's HSD and False Discovery Rate (FDR) will be used for post hoc pairwise comparisons. Propensity scores will be employed to examine potential covariates. Preliminary results of 146/240 participants (mean age: 53 years, 25% males) demonstrates that the 10-year CVD risk was significantly ($p < 0.05$) lower in the Vegan group (2.4%) compared to the RMD group (5.1%) only. The 5-year risk of developing CVD in the Vegan group was 1% compared to 2% in the RMD group which was also significantly different ($p < 0.05$). This is the first study to purposefully sample Australians habitually following PBD, presenting novel population-based evidence for CVD risk. These preliminary findings suggest more restrictive PBDs such as vegan diets when compared to RMD may be protective against developing CVD in healthy Australians.

References

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3. Australian Chronic Disease Prevention Alliance (2022) Australian absolute cardiovascular disease risk calculator. Available from: <https://www.cvdcheck.org.au/>