




BMJ Open Impact of the Nutri-Score front-of-pack nutrition label on purchasing intentions of individuals with chronic diseases: results of a randomised trial

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ABSTRACT

Objective To our knowledge, the effect of front-of-pack nutrition labels such as the Nutri-Score on food purchases has never been assessed among individuals suffering from nutrition-related chronic diseases specifically, while dietary modifications are generally part of their care. This study aimed to investigate the effect of the Nutri-Score on the nutritional quality of purchasing intentions among adults suffering from a cardiometabolic disease, compared with no label and the Reference Intakes (RIs), a label already implemented by some food manufacturers in France.

Setting Secondary prevention—mainland France.

Participants 2431 eligible participants were randomly assigned and 1180 participants (65.5% women, mean age 65.0±7.1 years) completed the shopping task and were included in the analyses.

Intervention A three-arm randomised controlled trial using an experimental online supermarket was conducted in 2017. Participants with cardiometabolic diseases were invited to simulate food purchases with the Nutri-Score, the RIs or no label.

Primary and secondary outcome measures The primary outcome was the nutritional quality of the shopping cart, estimated using the French-modified Food Standard Agency Nutrient Profiling System (FSAm-NPS), and secondary outcomes included the nutrient content of purchases.

Results The mean (SD) FSAm-NPS score was significantly lower in the Nutri-Score arm (1.29 (3.61) points), reflecting a higher overall nutritional quality of purchasing intentions, compared with the RIs (1.86 (3.23) points) and no label (1.92 (2.90) points) arms ($p=0.01$). Moreover, the Nutri-Score led to significantly lower content in calories and saturated fatty acids compared with the two other arms. These differences resulted from participants avoiding some packaged products (sweets, dairy and starches) and purchasing larger amounts of fresh fruit and meat.

Conclusions The Nutri-Score exhibited a significant higher nutritional quality of purchasing intentions, encouraging healthier food choices among individuals suffering from cardiometabolic chronic diseases.

Trial registration number NCT02769455.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- Inclusion of a rarely explored population in a randomised controlled trial pertaining to the effectiveness of front-of-package labelling on food choices.
- This controlled experimental environment allowed assessing the effect of the Nutri-Score in standardised conditions and optimising internal validity of the study.
- Limitation pertaining to a high rate of participants who did not complete the shopping task.
- The trial investigated purchasing intentions rather than actual food purchases.

INTRODUCTION

Non-communicable diseases (NCDs), such as obesity, type 2 diabetes, cardiovascular diseases and cancer have become a major burden for the current health systems.¹ For these diseases, dietary factors have been recognised to be one of the major leading risk factors in developed countries, resulting in 11 million deaths worldwide in 2017, and represent modifiable determinants through primary prevention.² In France, cardiovascular diseases remain the second leading cause of deaths by NCDs, accounting for 30% approximately of mortality.³ Regarding obesity, the prevalence was estimated at 17% within the French adult population in 2015,⁴ and the prevalence of type 2 diabetes was around 5% in 2016.⁵

Hence, in the context of secondary or tertiary prevention, many treatment guidelines highlight the importance to modify dietary habits to improve the nutritional status of individuals and thus control these nutrition-related NCDs.¹ For example, controlling for saturated fatty acids (SFA), sugars and salt intakes and increasing fruits

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