Effects of incremental doses of high-nitrate beetroot juice on health outcomes in overweight and obese older subjects: a qualitative assessment of the key strengths and weaknesses of the study

***William Fostier**[1], Abrar M Babateen[1], Mario Siervo[1,2]
W.fostier@newcastle.ac.uk Student ID: 170113582

Introduction

Beetroot juice (BJ) has a high nitrate content and it has been frequently used in interventions to test the effects of nitrate on health[1,2]. Preliminary animal and human investigations have reported an improvement of cognitive function (memory and executive performance) after dietary nitrate supplementation. However, all available trials were characterised by young and healthy participants, small sample sizes and short intervention durations. This means that most of the studies may not have been designed optimally to observe any potential benefits.

Aims

To evaluate the feasibility a 3-month intervention with incremental doses of high-nitrate BJ in older subjects and assess effects on brain and vascular health.

Methods

60 overweight and obese (BMI: 25-40kg/m^2) older participants (60-75years) were randomised to four interventions with incremental contents of dietary nitrate. A qualitative questionnaire was administered to gather feedback on weaknesses and strengths of the study.

Results

51 subjects completed the questionnaire. Subjects found the study procedures and BJ acceptable. Subjects participated because expressed an interest in nutritional research (31%), expected health benefits from the study (24%) and showed a high commitment to research (24%).

Figure 1. **Would you like to be approached to a study similar to this?**

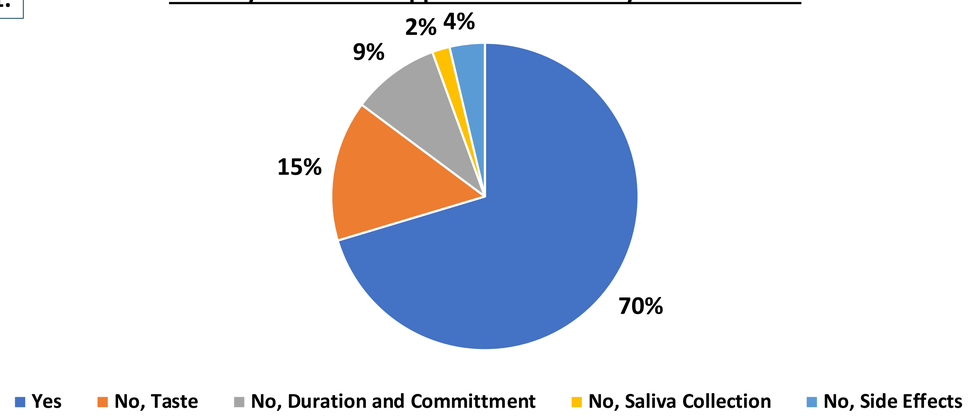
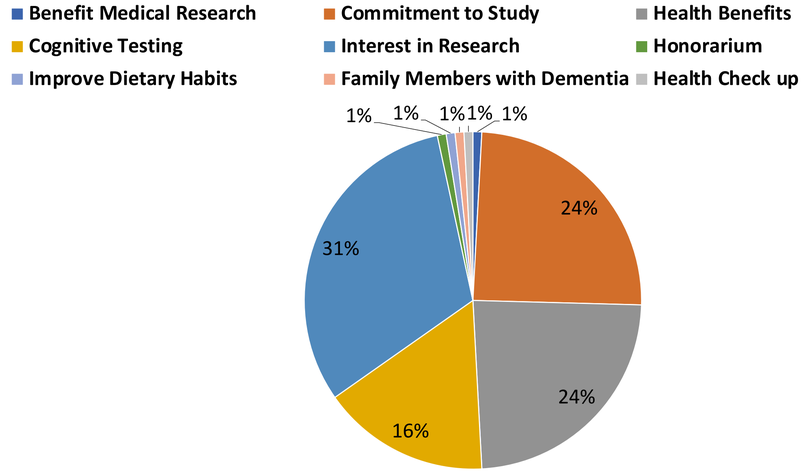


Figure 2. **What were the main factors which motivated you to participate and complete this study?**



Discussion

The results of the qualitive questionnaire represent a small part yet important part of a large study assessing the effect of high-nitrate beetroot juice on overweight and obese subjects. It is important to note that 73% of subjects reported no felt difference as a result of the beetroot intervention. Additionally 46% of subjects reported that they would not drink beetroot juice due to the taste; stating a preference for raw beetroot.

Figure 3.

Conclusion

This study demonstrated the feasibility and acceptability of a long-term intervention with incremental doses of high-nitrate BJ in overweight and obese older subjects.

References
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