Title: Behavioural process measures in personalized diet counselling for metabolic syndrome

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Background: A lifestyle program for metabolic syndrome (MetS) has shown 19% reversal of MetS after 1 year. Diet counselling within this and other such programs is a complex behavioural intervention and documentation of key features of counselling process remains challenging.

Objectives: To assess feasibility of self-report to document counselling process and to relate documentation to relevant diet change outcomes, as reported by registered dietitians (RDs) involved in the one-year lifestyle study.

Methods: 14 RDs across 3 Canadian primary care settings reported on behaviour change techniques (BCT, adapted from the Michie CALO-RE taxonomy) and food behaviour goals (FBG, adapted from the Academy of Dietetics Nutrition Care Process). Outcome was diet quality as measured by the 2005 Canadian Healthy Eating Index (HEI-C).

Results: Of 293 participants enrolled in the study, 87% had complete data at 3 months and 70% completed the 12-month study. HEI-C improved overall at 3 months and was maintained at 12 months. Goal setting accounted for 15% of all BCT, yet more goal setting (> 3 times/3 months vs 0 and 1-3 times/3 months) was associated with lower HEI-C at 3 months (F test; p=0.007). Self-monitoring, feedback on performance and focus on past success were associated with improved HEI-C. FBG that were associated with improved HEI-C at 3 months were additions to the diet

(e.g. increased plant protein, fish, olive oil, fruits and vegetables, and eating breakfast). More use of the balanced meal concept (>2 times/3 months vs ≤2 times/3 months), was associated with lower HEI-C at 3 months)(F test; $p<0.001$).

Conclusion: Results are promising and further development of self-report documentation is warranted.