ABSTRACT

A Cluster Randomized Controlled Trial of an Intervention to Improve the Management of Dyslipidemia in Primary care, Jamaica.

Michelle Ann Collins-Harris

Introduction: Cardiovascular diseases (CVD) are a leading cause of morbidity and mortality in Jamaica. Dyslipidemia is a major risk factor for CVD; population attributable risk is 49% for myocardial infarction and 25% for stroke. The objective of this study was to assess the effectiveness of a clinical audit and feedback in improving the management of dyslipidemia in primary care.

Methods: A cluster randomized controlled trial was conducted in 2012 at 6 health centers; 3 were randomized to receive the intervention and 3 were controls. A baseline audit of 500 records of patients with chronic diseases was conducted. The intervention comprised feedback of audit results and staff training in motivational interviewing with a reminder in patients' charts and patient education cards over 12 months. The same records were re-audited in 2013. Primary outcome was improved lipid control. Patient characteristics, outcomes and process of care measures at baseline for intervention and control groups were tested for differences using $\chi 2$ and student t tests. Within group differences at re-audit were tested using McNemar $\chi 2$ and paired t tests. Differences in lipid control were assessed using mixed effects

logistic regression. Multilevel mixed effects analysis of variance models assessed for differential changes in the continuous biomedical indices from baseline to re-audit.

Results: Dyslipidemia was diagnosed in 46% of the sample. At baseline 21.7% of intervention and 14.2% of control patients achieved LDL targets ($p = 0.143$). In both groups 52% achieved total cholesterol target, 76% HDL and just over 80%, the triglyceride targets. Patients had a mean of 2.8 clinic visits during the intervention. At re-audit, mean LDL increased by 0.34 mmol/L in the intervention group ($p < 0.001$), and by 0.15 mmol/L among the control ($p = 0.19$); mean HDL decreased by 0.15 mmol/L in the intervention group ($p = 0.12$) and increased by 0.23 mmol/L ($p < 0.05$) in the controls.

Conclusion: LDL control was poor. There was no significant change in lipid control at re-audit. This was likely due to inadequate implementation of the intervention, lack of responsiveness of staff and reduced power of the study. Higher priority should be given to management of dyslipidemia to reduce CVD. Lipid management guidelines should be developed and goals monitored.

Key words: Michelle Harris; lipids; dyslipidemia; audit and feedback; randomized controlled trial; cardiovascular disease; Jamaica.