Improving Primary Care Screening for Familial Hypercholesterolemia

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Introduction

Familial Hypercholesterolemia (FH) is the most common genetic condition resulting in cardiovascular disease, a leading cause of death in the United States. An estimated 90% of individuals with FH remain undiagnosed.

Purpose

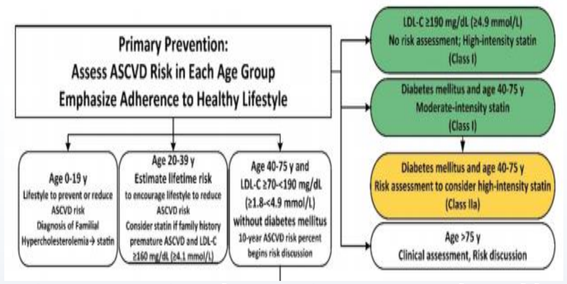
The purpose of this quality improvement project was to increase provider awareness and promote screening for FH among adults ages 20 years and older by: 1) educating providers about FH; 2) evaluating lipid screening practices on admission and every five years; 3) evaluating treatment status for clients exceeding the LDL-C 190 mg/dl cut-point; and 4) evaluating program impact on lipid screening practice.

Participants/Setting

Site: an independent primary care practice with two locations and five rotating provider staff with a patient base of approximately 3,500 clients ages 20 years and older.

Methods

A pre/posttest quality improvement project design with retrospective chart review assessed provider knowledge and screening practices documenting the proportion of patients screened for FH. Knowledge pretest-posttest surveys were sent by email to all clinic site providers with a continuing education article Laminated copies of the cholesterol management guideline algorithms (Grundy et al., 2019) were provided as part of the educational program.



A retrospective chart review was conducted by EMR database searches to compare proportions of lipid tests recorded pre/post-education.

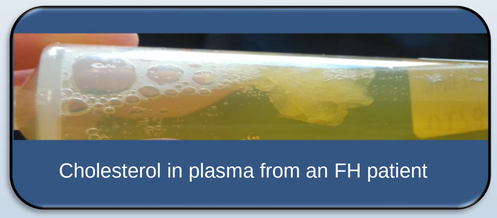
Results

Outcome measures of FH knowledge were reported using descriptive statistics. An independent samples *t*-test showed no statistically significant change in screening practices pre/post-intervention (p = 0.976), with a mean interval of 2.09 years between initial and subsequent testing. Regression analysis yielded a medium correlation effect between age and lipid testing intervals, decreasing by .028 years for every one-year increase in age.

Coefficients with Screening Interval as Dependent Variable

Constant	B	Standard Error	Beta	t	Significance
Age	-.028	.005	-.323	-5.479	.0001

The proportion of clinic patients exceeding the expected population estimate for FH was significant (p < .001). Return of clinical impact survey data did not occur.


Cholesterol in plasma from an FH patient

Discussion

The Electronic Medical Record (EMR) based data collection process and online education delivery methods were a good fit for this project because they were low-cost, non-intrusive, and did not require participant cooperation from patients. Lipid screening was found to be done more frequently with increased age. Since FH increases risk from birth, this data might prompt a screening protocol discussion.

Conclusion

Opportunities for quality improvement have been identified at the study site for improved awareness and screening for FH. The prevalence of patients at high-risk for FH has been reported. Continued data collection, benchmarking and process improvement efforts can help prevent the premature morbidity and mortality associated with familial hypercholesterolemia.

References

Elkins, J. C., & Fruh, S. (2019). Early diagnosis and treatment of familial hypercholesterolemia. *The Nurse Practitioner,* 44(2), 18-24. https://doi.org/10.1097/01.NPR.0000552677.31028.57

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