

SELF-MONITORING AND GOAL SETTING TO REDUCE CARDIOVASCULAR RISK

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INTRODUCTION

- Cardiovascular disease (CVD) accounted for 31.3% of United States deaths in 2011, making it the leading cause of death (Mozaffarian et al., 2015).
- CVD includes hypertension, coronary heart disease, cerebrovascular disease or ischemic stroke, myocardial infarction, heart failure, and angina pectoris (Mozaffarian et al., 2015).
- Implementation of CVD preventive interventions is variable, and adherence may be even more difficult for individuals of lower socioeconomic status (Artinian et al., 2010; Ho, Bryson, & Rumsfeld, 2009; Mozaffarian et al., 2015).
- Current guidelines instruct the provider to input data from asymptomatic patients into the American College of Cardiology/American Heart Association (ACC/AHA) atherosclerotic cardiovascular disease (ASCVD) risk calculation tool to predict risk for cardiovascular or cerebrovascular event (Goff et al., 2013). Providers can then determine appropriate risk reduction measures.
- Risk factor assessment should be done in adults age 20-79 who are asymptomatic every 4 to 6 years, and assessment should include 10-year risk calculation for adults age 40-79 (Goff et al., 2013).

Setting

The project was implemented at a nonprofit free clinic in a rural community in the Pacific Northwest. The clinic is open in the evenings and is staffed by volunteer clinicians. Patients requiring ongoing monitoring and treatment of chronic disease are seen in the chronic care clinic, which was the setting for this project. The clinic is completely free and open to anyone, but typically sees uninsured and underinsured adults with limited financial means.

Purpose Statement

The purpose of this project was to increase identification of cardiovascular risk and improve risk reduction education utilizing patient individualized goal setting and self-monitoring.

PICOT

The research question was: In a free clinic caring for adults with chronic disease (P), how does an educational intervention for clinic staff on patient self-monitoring and patient-centered goal-setting (I) affect identification of cardiovascular risk and management of patient education (O) over a period of 3 months (T)?

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MATERIALS AND METHODS

Interventions

- A patient education booklet was developed that incorporated CVD risk assessment, risk reduction strategies, information about goal setting, and space for patients to record self-monitoring of progress toward goals.
- A 30-minute staff in-service was held to discuss current recommendations on CVD risk assessment as well as resources available for patients, including the booklet and blood pressure cuffs for patients to take home.
- Posters to remind staff of the project were hung in patient treatment rooms.

Design

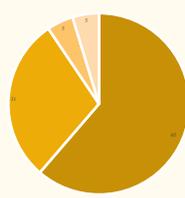
- Baseline and follow-up data collection was utilized to assess change in management of patients at high risk for cardiovascular disease following an educational session for clinic staff regarding patient-centered goal setting and self-monitoring of health behaviors.
- Patients with ICD-10 diagnosis codes putting them at high risk for cardiovascular disease were selected for chart review.
- Measures were collected for six months prior to and five months following the educational intervention.

Outcome Measures

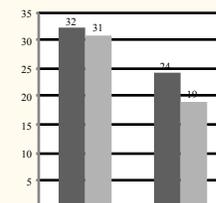
- Cardiovascular risk score in the chart
- Risk reduction education
- Educational materials given
- ASCVD risk estimation score
- Whether a blood pressure cuff was given
- Individualized goals for risk reduction



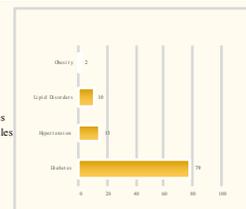
RESULTS



Race Frequency Distribution



Gender Frequency Histogram

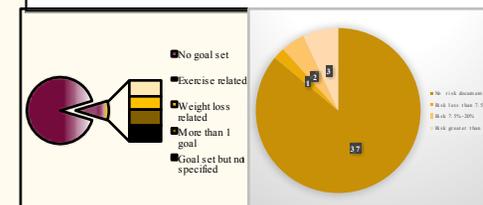


Primary Diagnosis

Outcome Measure	Baseline	Follow-up	p-value	Φ	Odds Ratio, 95% CI	χ ²	df
Documentation of cardiovascular risk	0%	14%	0.002	0.3	2.71 [2.09, 3.49]	9.318	1
Documentation of risk reduction education	0%	5%	0.08	0.2	2.54 [2.00, 3.22]	2.99	1
Documentation of educational materials provided	0%	14%	0.002	0.3	2.70 [2.09, 3.49]	9.318	1
ASCVD risk estimation	0%	14%	0.025	0.3	NA	9.318	3
Blood pressure cuff given	0%	5%	0.08	0.2	2.54 [2.00, 3.22]	2.99	1
Individualized goals for risk reduction	0%	9%	0.19	0.2	NA	6.090	4

RESULTS

- A primary diagnosis of diabetes was more common in males (82%, n = 46) than in females (66%, n = 33). Females were more likely to have hypertensive disorders listed as primary diagnosis (20%, n = 10) compared to males (9%, n = 5).
- The majority of patients did not have a second diagnosis listed (54%, n = 57). The most common second diagnoses were hypertensive disorders (26%, n = 27), lipid disorders (14%, n = 15), diabetes mellitus (2%, n = 2), and obesity (2%, n = 2).
- At follow-up, 21% of men had documented cardiovascular risk scores $\chi^2 (1) = 7.320, p = .007, \Phi = .4$, while only 5% of women had risk documented, $\chi^2 (1) = 1.665, p = .20, \Phi = .2$.
- White males had risk documented most frequently, 24% of the time, while 14% of men with unlabeled race had risk documented and 11% of white females had risk documented. The other race/gender groups did not have risk documented.
- Males were more likely to receive educational materials (17%) compared to females (11%).



Patient's individualized goals

ASCVD Risk Scores on Follow-up

CONCLUSIONS

- The project goal was met via clinical significance in each outcome and statistical significance in three of the five outcomes.
- Recommendation to stakeholders include continued CVD risk assessment, noting that women and minorities may be under-identified.
- The booklet should be translated into Spanish so that the patients can learn in their first language when possible.

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