Utilizing motivational interviewing in primary care to decrease low-density lipoprotein levels

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Background and Clinical Question

Modifiable health behaviors are essential for preventing and managing chronic diseases. Secondary dyslipidemia is one such condition that, if not addressed, can lead to cardiovascular disease (CVD), the leading global cause of death. Early detection and intervention are critical as CVD rates continue to rise. Primary care providers are key in identifying dyslipidemia and supporting patients in making necessary behavior changes. Motivational Interviewing (MI) is an evidence-based approach shown to be effective in promoting such changes. However, there remains a gap in how consistently healthcare providers apply MI to help patients set and achieve goals for managing dyslipidemia.

Purpose Statement

The intended outcome of this implementation plan is to reduce low-density lipoprotein cholesterol (LDL-C) levels in primary care adults with low-risk elevated LDL levels by 15-20% in one year through MI on goal setting for cholesterol management.

Current Evidence

MI has been found to reduce dyslipidemia by:

- increasing physical activity and reducing sedentary behavior (Zhu et al., 2024)
- having positive effects on treatment adherence (Beck et al, 2024)
- improving LDL-C reduction and weight loss (Lee et al., 2016)
- empowering patients to actively participate in making decisions about their treatment (Rollnick et al., 2023)

Methodology

This project targets individuals with LDL-C levels above 100 mg/dL for intervention. Exclusion criteria include those with familial hypercholesterolemia, cognitive impairment, individuals under 22, or anyone unable to provide consent. The intervention will take place in primary care settings, where providers can use MI to help patients develop lifestyle goals to reduce elevated LDL-C levels.

This project addresses ethical concerns by providing educational materials in multiple languages at a 6th-grade reading level and offering accessible community resources to support cholesterol management. Patients will have the right to consent to, refuse, or withdraw from interventions and must be fully informed to make independent decisions. All patient data will be protected in compliance with HIPAA, and efforts will be made to promote equity through free or low-cost nutrition counseling and access to affordable food options.

Cost Analysis

•CVD is projected to reach $1,044 billion by 2030 (World Heart Federation, 2024)
• Patients with dyslipidemia who experience a cardiovascular event incur high healthcare costs for services and medications.
•Primary prevention is $3,591 per patient, significantly less than the $8,210 cost for secondary prevention (Gabriel et al., 2024).
•MI is a cost-effective primary prevention strategy that can help reduce LDL-C levels and overall healthcare costs.
•Integrating MI into primary care requires minimal workflow disruption and includes costs for screening, training, materials, counseling, and patient visits.

Design

Providers will require MI training as the first step in initiating this intervention. The next step would be to identify eligible candidates, patients whose LDL-C is greater than 100mg/dL. During patient and provider visits, the intervention of MI on goal setting for cholesterol (LDL-C) management will be implemented. The provider will use MI with the patient to set goals toward lifestyle modifications like heart-healthy dieting, regular physical activity, weight loss, smoking cessation, alcohol reduction, stress treatment, and medication adherence. The stakeholders for this project implementation include all family health clinic employees (providers, medical assistants, managers, clinic administrators), patients and their families/caregivers, and possibly health IT developers.

Qualitative data collection will include pre- and post-surveys to assess patients' willingness to change health behaviors and their knowledge of cholesterol management and provider documentation in the electronic health records for each patient encounter. Quantitative data will consist of number of patient visits, follow-up appointment attendance, patient LDL-C levels, patient vital signs, patient BMIs, ASCVD risk scores, and the percentage of patients achieving LDL-C levels below 100 mg/dL. The REAP-S tool will be used to evaluate dietary habits, while the GPAQ will assess physical activity levels. Lipid panels are considered the gold standard for cholesterol management, while patient surveys and EHR data provide reliable insights into knowledge levels and provider-patient engagement.

Anticipated Results

The anticipated outcome would be at least a 15-20% reduction of the patient's LDL-C within one year. Based on previous studies –other anticipated outcomes would include an increase in physical activity (Zhu et al., 2024), treatment adherence (Beck et al, 2024), LDL-C reduction and weight loss (Lee et al., 2016), and an increase in patient engagement with decision making on dyslipidemia (Rollnick et al., 2009)

Future Recommendations

Providers can promote sustainability by integrating Motivational Interviewing (MI) into routine care for managing dyslipidemia and other chronic conditions. Incorporating MI counseling and follow-up into standard workflows for patients with LDL-C levels above 100 mg/dL allows for consistent intervention. The data gathered can inform future guidelines, policies, and clinical practices by providing measurable outcomes and insight into patient-provider interactions. It can also help identify disparities in outcomes across different populations and establish population-specific clinical targets. Additionally, this data can support public health initiatives and contribute to cost-effectiveness analyses for cholesterol management strategies.

Clinical Implications

Providers can utilize MI in clinical practice to help manage cholesterol dyslipidemia, which contributed to the leading cause of death CVD. The impact of nursing care, with primary interventions, on reducing cardiovascular disease can improve quality of life and significantly reduce healthcare costs.

Conclusion

MI is a proven, evidence-based strategy that can effectively support lifestyle changes and reduce elevated LDL cholesterol levels. By implementing MI within primary care settings, providers can facilitate patient-centered goal setting and behavior change, especially in adults with low-risk dyslipidemia. This approach not only promotes earlier intervention and improved health outcomes but also offers a cost-effective strategy for primary prevention. With proper training, workflow integration, and ethical considerations, MI can enhance clinical practice, support health equity, and inform future guidelines and public health policies.

References

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