

Barriers to Screening for Diabetic Retinopathy: A Scoping Review

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Purpose

The purpose of this DNP project is to determine what barriers exist to receiving annual diabetic retinopathy screenings.

Specific Aims

- Identify existing barriers that correlate with receiving annual diabetic retinopathy screening
- Provide solutions to overcome existing barriers
- Educate the public at an appropriate literacy level regarding the importance of receiving annual screening

Background

- Diabetes mellitus (DM) is the 7th leading cause of death in America. If uncontrolled through lifestyle and medication, diabetes can lead to severe organ damage in the kidneys, eyes, nerves, heart, and feet.
- Diabetic retinopathy (DR), a complication of diabetes, is the leading cause of new cases of blindness among adults 18-64 years.
- Risk factors for type two diabetes include being overweight, > 45 years old, family history, sedentary lifestyle, history of non-alcoholic fatty liver disease, and being a person of African, Hispanic, Indian, or Alaskan Native descent.
- DR may not have symptoms until it has progressed to advanced stages. Once advanced, patients may experience blind spots, flashes, and blurring.
- Designing a DR screening program with appropriate and timely referral to facilities with trained eye care professionals can prevent vision loss.

Methods

- Scoping review: Three databases were searched- (PubMed, CINAHL, & Medline)
- Eligibility:
 - Articles published between 2013-2020
 - Level of evidence
 - Published in a reputable medical journal
 - Project was IRB approved
- Critical appraisal results: 15 articles met criteria for inclusion

Levels of Evidence Synthesis Table

| X (copy symbol as needed) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| Level I: Systematic review or meta-analysis | | | | | | | x | | | | | | | | |
| Level II: Randomized controlled trial | | | | x | | | | | | | | | x | | |
| Level III: Controlled trial without randomization | | | | | | | | | | | | | | | |
| Level IV: Case-control or cohort study | | | | | x | x | | x | x | | x | | | x | x |
| Level V: Systematic review of qualitative or descriptive studies | | x | x | | | | | | | x | | | | | |
| Level VI: Qualitative or descriptive study, CPG, Lit Review, QI or EBP project | x | | | | | | | | | | | | x | | |
| Level VII: Expert opinion | | | | | | | | | | | | | | | |

LEGEND

1= Fairness E, et al.; 2= Eppley S, et al.; 3= Paksin-Hall A, et al.; 4= Litaker J, et al.; 5= Modjtahedi B, et al.; 6= Benoit S, et al.; 7= Taylor-Phillips S, et al.; 8= Ribeiro L, et al.; 9= Kirkizlar E, et al.; 10= Shepler CR, et al.; 11= Vujan S, et al.; 12= Wong TY, et al.; 13= Mansberger SL et al.; 14= Moinul P et al.; 15= Hatef E, et al.

Common variables included:

Age; Insurance; Employment; Income; Education level

Results

- Existing barriers to receiving annual screenings for diabetic retinopathy:
 - Insurance
 - Cost
 - Education

Implications for Practice

- Providing patient education on retinopathy through brochures and patient teach back during appointments can improve patient outcomes
- Increasing referrals to ophthalmology can lead to earlier diagnosis of diabetic retinopathy and better patient outcomes.
- Referral to social work or case management to help the patient find insurance options or financial help to be able to make treatment affordable
- Referring patients to ophthalmology is an essential pillar for the treatment plan of those diagnosed with diabetes.
- Following up with the patient after the ophthalmology appointment can also be beneficial

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