Overcoming barriers to diabetes care in homeless adults through the use of the Environmental Barriers to Adherence Scale (EBAS)

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Disclosures

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• Learner Objectives
  • Basic understanding of diabetes and homelessness prevalence in the United States
  • Basic understanding of common barriers to diabetes self-care in the literature
  • Basic understanding of how the EBAS tool can be used in a clinic setting for homeless individuals

• I have no conflict of interest

• Employer: Calvin University, Grand Rapids, MI; Spectrum Health, Grand Rapids, MI; University of Michigan, Ann Arbor, MI

• No sponsorship or commercial support were provided for this project or presentation
Introduction and Clinical Problem

- Diabetes affects 29.1 million Americans\textsuperscript{6}

- Predictions report 1 out of every 3 Americans will have diabetes by 2050\textsuperscript{1}
Diabetes as a chronic disease

Diabetes requires self-management

Self-management includes:
- Healthy eating
- Physical activity
- Monitoring blood sugars
- Medication compliance

Self-care is essential for the avoidance of complications
In 2015, it was estimated that over 564,000 people in the United States experienced homelessness on a given night.
Washtenaw County, Michigan – Homelessness

Total Homeless Persons in Washtenaw County, Michigan

- Sheltered: 12%
- Unsheltered: 88%
Washtenaw County, Michigan - Homelessness (cont.)

Sheltered Persons, location of residence

- 78% Transitional Housing
- 22% Emergency Shelter
Literature Appraisal

- Limited research regarding known barriers to diabetes self-care in the homeless diabetic population
- 2 articles\(^9,^{17}\)
  - Lifestyle
  - Diet/food
  - Access to care
  - Medications
Literature Appraisal (cont.)

3 databases
- CINAHL, PsychINFO, PubMed

Keywords
- Diabetes, barrier, patient compliance
Literature Appraisal (cont.)

Articles were included based on these criteria:
- Used a validated tool or structured questionnaire
- Conducted with adults
- Conducted in the United States
- Patients diagnosed with diabetes (Type 1 or 2)

12 Articles were selected
Literature Appraisal (cont.)

- Identification
  - # of records identified through database searching: 7,523

- Screening
  - 7,523 records screened
  - 43 duplicates removed
  - Records excluded via hand searching (N=7,181)

- Eligibility
  - 299 full text articles assessed for eligibility
  - Full text articles excluded (N=287)

- Included
  - 12 studies included in literature synthesis
Findings from 12 articles

Identified barriers fell into 5 categories:

- Diet $^8,^{27},^{28}$
- Financial barriers $^3,^{24},^{27},^{28},^{33}$
- Glucose monitoring $^8,^{26}$
- Medication $^3,^{20},^{21},^{24},^{25},^{31}$
- “Other” $^8,^{20},^{28}$
Theoretical Model: Ottawa Model of Research Use (OMRU)\textsuperscript{15}

Adapted from Graham and Logan, 2004
The Role of Nurse Practitioners

- Key members of health care team for diabetic patients\textsuperscript{10}
- Critical to management of chronic diseases\textsuperscript{11}
- Important role in programs brought to homeless persons\textsuperscript{29}
- Well-respected by patients and the general public\textsuperscript{2}
Project: Setting and Population

- Robert J. Delonis Center
  - Washtenaw Shelter Association of Ann Arbor

- Health Clinic (2nd floor)
  - Packard Health

- Diabetic patients (Type 1 or Type 2)
Purpose of the Project

Improve self-care management of diabetes in homeless adult patients who receive their primary care at the Delonis Center health clinic.
Timeline

Phase 1
- Learning about site
- Assessing workflow
- Gathering information
- Submit to IRB

Phase 2
- Educational session for all providers and MA
- Implement EBAS with patients
- Monitor for barriers

Phase 3
- Collect results
- Analyze results

Phase 4
- Evaluation
- Present findings back to Delonis Center
- Final presentations
Objectives of the Project

Purpose: Improve self-care management of diabetes in homeless adult patients who receive their primary care at the Delonis Center health clinic.

Objective 1 - Improve assessment of patient identified barriers to diabetes self-care by utilizing the EBAS tool.

Objective 2 – Increase referrals to diabetic patients based on their self-identified perceived barriers to improve care for these diabetic patients.

Objective 3 - Increase recommendations to diabetic patients based on their self-identified perceived barriers to improve care for these diabetic patients.
Environmental Barriers to Adherence Scale (EBAS)

Developed by Irvine, et al. (1990)\textsuperscript{18}
60 question assessment tool
Questions divided into 4 categories:
\begin{itemize}
\item Medication (including insulin)
\item Exercising
\item Testing blood sugar
\item Eating (diet)
\end{itemize}
Project Implementation

- MA will give EBAS to patient during check-in.
- Completed EBAS will be given to provider.
- Provider will conduct PCP visit as normal, and review EBAS results at end of the visit.
Data Collection for DNP Scholarly Project at Delonis Center health clinic

Date of visit:

Was the EBAS tool used with this patient? Yes___________ No __________

If no, what was the reason the tool was not used?

What referrals or recommendations did you offer AFTER the EBAS tool was implemented? **Please note: Referrals and recommendations considered STANDARDS OF CARE for diabetes do not count: annual podiatry exam, annual eye exam, BUN, creatinine, and micro albumin.**

☐ Cost (insurance, supplies, etc.) ☐ Transportation

☐ Diabetic Footwear ☐ Food

☐ Medication (getting medications, understanding dose, forgetting) ☐ Exercise/gym

☐ Time (home or work) ☐ Other (please specify) __________

☐ Complications from other Chronic diseases

Comments about referral or recommendation________________________

Did you (as the provider) personally order the referral/recommendation? Or did you pass the referral/recommendation on to another member of the health-care team (i.e. social work)?
Measurables/Evaluation Plan

• Objective 1 - Was the EBAS tool used with the diabetic patient? (YES or NO)

• Objective 2 - Did the provider offer any referrals to the patient? (YES or NO)

• Objective 3 – Did the provider offer any recommendations to the patient? (YES or NO)
Results

12 EBAS tools were completed by diabetic patients (N=12)
EBAS – most common responses

<table>
<thead>
<tr>
<th>Reason</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in my routine (sleeping late, working late, etc.)</td>
<td>6</td>
</tr>
<tr>
<td>Feeling sick</td>
<td>6</td>
</tr>
<tr>
<td>Forgetting to take it</td>
<td>6</td>
</tr>
<tr>
<td>The inconvenience (of carrying my medication with me, etc.)</td>
<td>6</td>
</tr>
<tr>
<td>Finding the time at home</td>
<td>6</td>
</tr>
</tbody>
</table>

Score range: 4 - 7
EBAS – most common responses

Exercising

- The cost
- Changes in my routine (sleeping late, working late, etc.)
- Feeling sick
- The inconvenience (of going to the gym, carrying the equipment, etc.)
EBAS – most common responses

Testing your blood sugar

- The cost of supplies
- Changes in my routine (sleeping late, working late, etc.)
EBAS – most common responses

Eating (staying on your diet)

- Getting back on my diet after getting off it
- The cost
- Feeling sick
- Problems with my health (trouble seeing, no energy, etc.)
Referrals and Recommendations

- Cost
- Diabetic Footwear
- Medication
- Time
- Transportation
- Food
- Exercise/gym
- Complications from other chronic diseases
- Other
- None offered
Discussion

• 10 out of 12 diabetic patients received a referral or recommendation (83%)

• Reasons referrals or recommendations not offered:
  ◦ Patient not interested
  ◦ Patient primary care patient at another practice
Patient identified barriers

- Length of EBAS tool (60 questions)
- Difficulty understanding the questions
Recommendations for practice

• Continue use of EBAS tool at the Delonis Center health clinic
  ◦ Assessment of barriers to diabetes self-care
  ◦ Continue offering referrals and recommendations
Sustainability

• Length of the EBAS tool

• Project success relies on MA
Future Steps

• Create a condensed/shorter version of the EBAS tool

• Track patients after referrals and recommendations
Thank you

Delonis Center and the health clinic

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Questions?


