The Impact of Medication Review and Patient Counseling by a Community Pharmacist on Diabetes Control

Yunkyoung Lee, PharmD;1 James Wilson, Ph.D.1, Kenneth Lawson, Ph.D.1, Roxann Soliz, RPh2, Jose Cervantes, PharmD2, Jeremy Ashley, PharmD2, Donna Montemeyer, RPh2, Nathan D. Pope, PharmD1

1 The University of Texas at Austin, College of Pharmacy 2 H-E-B Pharmacy

Background

- 25.8 million people in the U.S. have diabetes1
  - 8.3% of U.S. population
- In 2005 to 2008:
  - 53.5% of adults with diabetes had well controlled diabetes (HbA1c <7%)
  - 16.2% of them were poorly controlled (HbA1c >9%)2
- In 2008:
  - 55.6% of people with diabetes were seen by a dentist within a year
  - 68% of adults with diabetes had a foot exam by a health care provider within a year3
  - 53.4% of adults with diabetes had an eye exam within a year
  - 64.6% of adults with diabetes had HbA1c test at least twice a year
  - 64% of adults with diabetes had self-monitored blood glucose test at least once a day4
  - 56.8% of adults with diabetes received formal diabetes education5

Objective

- To assess whether community pharmacist intervention improves:
  - HbA1c
  - Medication adherence
  - Annual exam status
  - Vaccination status
  - Confidence in self-disease state management in patients with diabetes

Methods

- Study setting
  - A H-E-B Pharmacy store in Round Rock, Texas
    - Regional supermarket pharmacy chain
- Inclusion criteria
  - ≥ 18 years old
  - Any patient who fills at least one medication for diabetes at the study pharmacy during the study period
- Exclusion criteria
  - HbA1c < 7%
- Expected sample size
  - 50 people with diabetes
- Data collection
  - Names and telephone numbers of possible participants were extracted from prescription fill history from 1/16/2011 to 1/16/2012
  - Candidates are contacted for initial screening and enrolled if they have uncontrolled diabetes and agree to participate
  - Participants fill out the consent form and initial questionnaire and have HbA1c test done at the initial visit
  - Questionnaire assesses the following:
    - If participants are aware of their diabetes goals
    - Years since diabetes diagnosis
    - Regular check-ups, vaccinations, monitoring, exercise, smoking status
    - Confidence in self-diabetes management skills (on a scale of 0 to 10)
    - HbA1c level checked with a finger prick blood test using Bayer A1C Now+
    - Medication adherence is assessed via refill history
    - Adherent if refilled within ± 3 days
    - Participants are assessed 3 months post-intervention
    - HbA1c level and final questionnaire are obtained

Interventions

1. Medication Review
   - Recommendations are made to doctors if necessary
   - To increase the dose of current medication
   - To initiate a new medication

2. 1-on-1 diabetes coaching
   - Goals
     - HbA1c, Fasting blood sugar, BP, smoking cessation, etc.
   - Medication adherence
     - Alarm, reminder, pill box, etc.
   - Diet
     - Plate method and nutrition label
   - Vaccinations
     - Flu, pneumonia, shingles vaccines
   - Regular check-ups
     - Foot, dental, eye exams and PCP appointments
   - Exercise
     - Incorporate to daily routine, set a goal, etc.
   - Monitoring
     - Hypoglycemia management
   - Insulin administration and storage

Participants will be given My Medication List and My Action Plan

Results

- Research in progress

Limitations

- Small sample size
- Short duration of follow up
- No control group

Implications

- This study may help the participants refresh their overall diabetes knowledge
- Additional attention and support for the patients with uncontrolled diabetes may boost their motivation
- The researcher encourages participants to eat better, move more, take their medications as directed, monitor themselves appropriately, complete their regular check-ups, receive recommended vaccinations, and take care of themselves better
- Improvement in HbA1c level is expected benefit which correlates with decreased risks of micro/macrovacular complications

References
