Pharmacist-Delivered Motivational Interviewing for Diabetes Medication Adherence in a Hospital-based Worksite Wellness Program

Gladys Ekong, BPharm, PhD Candidate
Jen Kavookjian, MBA, PhD
Amie Hardin, RD, LD, CDE
Jessica Tubbs, PharmD

aHealth Outcomes Research and Policy, Harrison School of Pharmacy, Auburn University
bDiabetes and Nutrition Center, East Alabama Medical Center

A portion of this project was supported by funding from the BCB S of Alabama Caring Foundation

Disclosures

Jan Kavookjian discloses: she is a member of the Merck Speakers Bureau for Non-branded Medical Education: program delivery for Motivational Interviewing and for Health Literacy Communication

The American Pharmacists Association is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

• Target Audience: Pharmacists
• ACPE#: 0202-0000-17-020-L04-P
• Activity Type: Knowledge-based

Learning Objectives

1. Describe the application of Structured Motivational Interviewing Tools (SMITs) as a conversation aid.
2. Describe target outcomes for the Motivational Interviewing for Diabetes Medication Adherence (MIDMA) study.
3. Describe study strategies and future directions for Motivational Interviewing – based conversation tools and the role of pharmacist in behavior change conversations for chronic disease management.

Background

• Diabetes in the US is prevalent (9.3%), costly ($245 billion annually)^1,2
• Diabetes disease management requires self-management behaviors
• Adherences rates in diabetes remain at about 50% for oral medications^3
• Behavior change interventions are required
• Pharmacists’ limited self-efficacy for communication skills has been reported as a reason why they have not prevalently counselled patients
• East Alabama Medical Center (EAMC): convenience sample to address medication nonadherence in Diabetes Worksite Wellness Program (DWWP) members
Background

- Motivational Interviewing (MI) is a patient-centered communication skills set with expanding evidence base for helping patients decide to engage healthy behaviors4-12
- MI: multi-dimensional conceptual and strategic basis derives from established health behavior theories
- MI Key Points: patient-centered listening and empathy, self-efficacy support, eliciting change talk, autonomy support, respectful response with resistant patients4-6
- MI and pharmacist-delivered medication adherence interventions
  - APhA Foundation Dotx.Med Project (JAPhA, 2012)13

Objectives of the Study

- Phase 1: Identify specific barriers to adherence in the EAMC DWWP medication taking population (n = 216/242)
- Phase 2: Develop MI-based behavioral shared decision-making conversation tools for identified barriers, and train pharmacists in evidence-based MI training model
- Phase 3: Assess impact on primary target outcomes of MI-trained pharmacists using the conversation tools
  - Approval obtained from Auburn University IRB and EAMC Hospital IRB

Phase One Methods: Identify Adherence Prevalence and Barriers in the Population

- Brief, anonymous Qualtrics survey among EAMC DWWP population (242)
  - Current prescribed diabetes medications/insulin and number of days ANY dose/injection/unit was missed
  - When missed, top 1-3 reasons/barriers
- Barrier item choices (9 + 'other') derived from preliminary semi-structured interviews with sample of patients (n=6) and diabetes educators (n=4) at the Diabetes & Nutrition Center (DANC)
- One-shot recruitment e-mail from DANC Director

Phase One Results: Survey Responses

- Overall Response: 143 (59% response rate)
- Type of Treatment
  - Oral only: 45.5%
  - Non-insulin injectables only: 2.10%
  - Both oral and non-insulin injectables: 12.59%
  - Both oral and insulin: 18.88%
  - Insulin only: 11.12%
  - All three types: 2.1%
  - No meds at all: 6.99%
  - 47.55% reported at least one day of missed doses

Phase Two Methods: MI Tool Development

- One-page conversation tool developed per barrier type
- Incorporating MI-based strategies into the conversation tool
  - Autonomy support: choice of barrier topic to discuss
  - Change talk elicitation: change talk ruler and follow-up questions
  - Self-efficacy (SE) support: overall SE assessment and open-ended goal-setting questions
  - Patient signature line to support commitment to goals

Phase One Results: Most Prevalent Barriers

- Forget to take it
- Scheduling/picking up refills
- Don’t like side effects
- Difficulties with schedule (at work, while traveling, on week-ends)
- Feelings of sadness
- Not understanding/valuing the benefits of the medications/insulin
Phase Two Methods: MI Tool Testing
- Pre-tested for face and content validity by patients (n = 5), diabetes educators (n = 3), pharmacists (n = 2)
- Implementation process: brief (5-10 minute) encounter
  - 1) patient reports medication adherence per medication (visual Medometer)14
  - 2) patient chooses barrier topic
  - 3) pharmacist uses tool to guide MI-based conversation
  - 4) patient writes goals for overcoming the barrier on the MI tool
  - 5) patient signs MI tool (commitment contract)
  - 6) patient keeps the MI tool and a project refrigerator magnet
  - (pharmacist makes/keeps copy before patient departs with original)
- Pilot tested tool and process (n = 10 patients)

Phase Two Methods: Pharmacist MI Training
- One clinical pharmacist and three pharmacy residents
- Two-day evidence-based group training model
  - Conceptual overview and conceptual development exercises
  - Skills development exercises, progressing to two rounds of role play with MI-expert feedback
  - Short-term outcomes: Pre- and Post-assessment of pharmacist knowledge and confidence
  - Long-term outcomes: MI intervention fidelity assessment during Phase Three (MI-expert analysis of random samples of audio-recorded patient encounters)

Phase Two Results: MI Tool and Training
- Revised MI conversation tool based on pilot inputs from pharmacist and resident
- MI knowledge increased from before training
- Confidence in MI skills increased from before training

Phase Three Methods: Intervention Study
- Phase three study design: single-site, quasi-experimental
  - Baseline data collection, three monthly intervention/data collection encounters, post data collection, follow-up at three months later, longitudinal follow-up study
- Study setting: EAMC DWWP convenience sample
- Inclusion Criteria:
  - EAMC DWWP employees/dependents with T1D or T2D, aged ≥19 years, currently on prescribed medications (oral medications, insuling, and/or injectables), filling at EAMC pharmacy

Phase Three Methods: Recruitment
- Rolling recruitment from October 1, 2016 through Feb 28, 2017
- Multi-modal recruitment strategies
  - 1. Three recruitment events announced by flyers
  - 2. Recruitment e-mails from DANC
  - 3. Phone calls by DANC staff and MI-trained PharmD students
  - Incentive: drawings for $50 Visa gift cards for each data collection completion level

Phase Three Methods: Target Variables
- Data sources: patient self-report and data from Electronic Health Record (EHR)
- Adherence: Medomter after Morisky removal, Proportion of Days Covered (PDC), and Summary of Diabetes Self-Care Activities- Medication Subscale (SDSCA-MS)
- Clinical: A1C, weight/BMI, presence of depressive symptoms (PHQ-9)
- Humanistic: Quality of life (SF12 and ADDQoL), Satisfaction (Diabetes Treatment Satisfaction Questionnaire)
- Economic: Utilization variables from EHR (ED visits, hospital admissions)
Phase Three: Preliminary Results, Ongoing

- Of the 216 EAMC WWP members eligible to participate, 48 consented and completed baseline data collection (22.22% participation rate)
- Race/ethnicity: 50% Caucasian, 47% African American/Black
- 56.2% female; mean age 53.7 (+/- 9.01); 42.2% completed high school or below
- Treatment Types:
  - Oral medications only: 54.2%
  - Non-insulin injectables only: 2.1%
  - Insulin only: 10.4%
  - Combinations: 33.3%

Baseline Clinical and Medical History Variables

<table>
<thead>
<tr>
<th>Clinical and Medical History Variables (n = 48)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A1C (%)</td>
<td>7.31 (1.40)</td>
</tr>
<tr>
<td>Body Mass Index (BMI)</td>
<td>34.22 (5.60)</td>
</tr>
<tr>
<td>Presence of depressive symptoms (1-8)</td>
<td>4.45 (5.27)</td>
</tr>
<tr>
<td>Number of comorbid conditions</td>
<td>3.02 (1.67)</td>
</tr>
<tr>
<td>Disease duration</td>
<td>7.50 years</td>
</tr>
<tr>
<td>Duration in wellness program</td>
<td>6.90 years</td>
</tr>
</tbody>
</table>

Baseline Self-Report of Medication Adherence

<table>
<thead>
<tr>
<th>Summary of Diabetes Self-care Activities-Medication Subscale (SDSCA-MS) (n = 48)</th>
<th>Baseline Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On how many of the &quot;last seven days&quot; (or &quot;last four weeks&quot;) did you take your recommended diabetes medication doses/injections/insulin units as prescribed?</td>
<td></td>
</tr>
<tr>
<td>Oral diabetes medication</td>
<td>6.30 (1.36)</td>
</tr>
<tr>
<td>Non-insulin injectables</td>
<td>6.80 (0.42)</td>
</tr>
<tr>
<td>Insulin</td>
<td>4.00 (0.00)</td>
</tr>
</tbody>
</table>

Medometer (n = 19)

<table>
<thead>
<tr>
<th>Medication type</th>
<th>Baseline Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral medications (n=12)</td>
<td>96.67 (4.44)</td>
</tr>
<tr>
<td>Non-insulin injectables (n=2)</td>
<td>92.50 (3.54)</td>
</tr>
<tr>
<td>Insulin (n=5)</td>
<td>95.80 (5.31)</td>
</tr>
</tbody>
</table>

Phase Three Results: Aggregate Frequencies of Barrier Topic Choices

- Forget to take it (n = 18)
- Difficulties with schedule (n = 17)
- Feelings of sadness (n = 13)
- Don’t like side effects (n = 12)
- Not understanding/valuing benefits of medications/insulin (n = 12)
- Scheduling/picking up refills (n = 2)

Discussion

- Patient-centered communication (MI) has been shown to enhance patient decision-making for health behaviors like medication taking
- Patient-centered communication requires a complicated and multi-dimensional skills set including listening and empathy, self-efficacy support, eliciting change talk, autonomy support, respectful response to resistance
- Appropriately incorporating these into a behavioral shared decision-making tool to guide the conversation may support pharmacist confidence and engagement of patient-centered communication strategies

Limitations

- Small sample size/participation rate
- Sample may be biased with persons controlled and mostly adherent, despite incentives
- Limited generalizability with convenience sample
- Medication adherence measure change after launch (Morisky removal)
- Intervention pharmacist and resident changed after Phase Three launch
- Required data access and project progress have seen repeated delays due to hospital-wide transition to new EHR system just before study launch
- Pearls and Pitfalls of natural setting behavioral intervention research
References


