




Jan Kavookjian
PhD
Motivational Interviewing (MI) for Diabetes Medication Taking:
Development of Structured MI Conversation Tools for Addressing Medication Taking Challenges

Associate Professor of Health Outcomes Research and Policy
Auburn University
Auburn, AL

AADE17

Disclosure to Participants

- Notice of Requirements For Successful Completion
 - Please refer to learning goals and objectives
 - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
- Conflict of Interest (COI) and Financial Relationship Disclosures:
 - Jan Kavookjian discloses that she is on the Merck Speakers Bureau for Non-branded Medical Education (for Motivational Interviewing and for Health Literacy Communication)
- Non-Endorsement of Products:
 - Accredited status does not imply endorsement by AADE, ANCC, ACPE or CDR of any commercial products displayed in conjunction with this educational activity
- Off-Label Use:
 - No products or off-label use are included in this presentation.

AADE17

Learning Objectives

- Understand the process of identifying medication taking challenges topics that prevail in a particular diabetes patient population.
- Understand the process of using identified medication taking challenge topics to develop MI-based conversation tools for talking with patients about problem-solving and goal setting for those challenges.
- Describe educator perceptions of how the MI-based conversation tools contributed to the patient encounter for medication taking problem-solving and goal-setting.

AADE17

Background

- Diabetes in the US is prevalent (9.3%), costly (\$245 billion annually)^{1,2}
- Diabetes disease management requires self-management behaviors
- Rates for taking diabetes oral medications as prescribed remain at about 50%³
- Behavior change interventions are required
- East Alabama Medical Center (EAMC): convenience sample to address uncertain medication taking in Diabetes Worksite Wellness Program (DWWP) members

AADE17

Background

- Motivational Interviewing (MI): 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 medication taking interventions
 - Dotx.Med Project¹³ for diabetes; others⁹⁻¹¹

AADE17

Objectives of the Study

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

AADE17

Phase One Methods: Identify Medication Taking Prevalence and Barriers in the Population

- Brief, anonymous online survey in 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 EAMC Diabetes & Nutrition Center (DANC)
- One-shot recruitment e-mail from DANC Director

AADE17

Phase One Results: Survey Responses

- 143/242 Responses (59% response)
- Treatment Type
 - Oral medication(s) only: 45.5%
 - Non-insulin injectables only: 2.1%
 - Both oral and non-insulin injectables: 12.6%
 - Both oral and insulin: 18.9%
 - Insulin only: 11.1%
 - All three types: 2.1%
 - No meds at all: 6.9%
- 47.55% reported at least one day of missed doses

AADE17

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

AADE17

Phase Two Methods: MI Conversation Tool Development

- One-page conversation tool developed per medication taking 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

AADE17

Phase Two Methods: MI Tool Testing

- Pre-tested for face and content validity by patients (n = 5), RD diabetes educators (n = 3), pharmacists (n = 2)
- Implementation process: brief (5-10 minute) encounter
 - 1) patient reports medication taking per medication (visual Medometer)¹⁴
 - 2) patient offered choice of 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 reminder refrigerator magnet
 - (pharmacist makes/keeps copy before patient departs with original)
- Pilot tested tool and process (n = 10 patients)



AADE17

Phase Two Methods: Interventionist MI Training

- One clinical pharmacist CDE and two pharmacy residents among group
- 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 knowledge and confidence
- Long-term outcomes: MI intervention fidelity assessment during Phase Three (MI-expert analysis of random samples of audio-recorded patient encounters)

AADE17

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 from 58% to 87%
- Confidence in MI skills increased from before training from 4.2 to 7.6 (on scale from 1 to 10)
- Reported outcomes: tool ease of use, increased MI confidence with tool use, patient receptiveness to the tool, patient tool response identified discrepancies in self-reported medication taking, and patient reports that being given the tool/magnet reinforced goals at home

AADE17

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: hospital DWWP convenience sample
- Inclusion Criteria:
 - EAMC DWWP employees/dependents with T1D or T2D, aged ≥ 19 years, currently on prescribed medications (oral medications, insulin, and/or injectables), filling medications at hospital pharmacy

AADE17

Phase Three Methods: Recruitment

- Rolling recruitment from October 1, 2016 - 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

AADE17

Phase Three Methods: Target Variables

- Data sources: patient self-report and data from Electronic Health Record (EHR)
- Medication Taking: Medometer 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)

AADE17

Phase Three: Preliminary Results, Ongoing

- Of the 176 EAMC DWWP members eligible to participate, 48 consented and completed baseline data collection (27.3% participation rate)
- Race/ethnicity: 50% Caucasian, 47.9% 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%

AADE17

Baseline Clinical and Medical History Variables

Clinical and Medical History Variables (n = 48)	Mean (SD)
Hemoglobin A1C (%)	7.31 (1.40)
Body Mass Index (BMI)	34.22 (5.60)
Presence of depressive symptoms (1-8)	4.45 (5.17)
Number of comorbid conditions	3.60 (1.67)
Disease duration	7.50 years
Duration in wellness program	6.90 years

AADE17

Baseline Self-Report of Medication Taking

Summary of Diabetes Self-care Activities-Medication Subscale (SDSCA-MS) (n = 48)	Baseline Mean (SD)
On how many of the "last seven days" (or "last four weeks") did you take your recommended diabetes medication doses/injections/insulin units as prescribed?	6.30 (1.36)
Oral diabetes medication	6.80 (0.45)
Non-insulin injectables	4.00 (0.00)
Insulin	6.56 (0.74)
Medometer (n = 19)	
Oral medications (n = 12)	96.67 (4.44)
Non-insulin injectables (n=2)	92.50 (3.54)
Insulin (n=5)	95.80 (5.31)

AADE17

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)

AADE17

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 diabetes educator confidence and engagement of patient-centered communication skills/strategies

AADE17

Limitations

- Small sample size/participation rate
- Sample may be biased with persons controlled and mostly adherent, despite incentives
- Limited generalizability with convenience sample
- Medication taking 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

AADE17

References

1. American Diabetes Association. The Cost of Diabetes. June 22, 2015. <http://www.diabetes.org/advocacy/news-events/cost-of-diabetes.html>
2. CDC. National diabetes statistics report: estimates of diabetes and its burden in the United States, 2014. Atlanta GA: US Department of Health and Human Services, 2014.
3. Viswanathan, M., et al., Medication Adherence Interventions: Comparative Effectiveness. Closing the Quality Gap: Revisiting the State of the Science. Evidence Report No. 208. AHRQ Publication No. 12-0018-EF. 2012, Agency for Healthcare Research and Quality Rockville, MD.
4. Miller WR, Rollnick S. (2013). *Motivational Interviewing, 3rd Edition: Preparing People for Change*. New York, NY: The Guilford Press.
5. Rollnick S, Miller W, Butler C. (2009). *Motivational Interviewing in Health Care*. New York: Guilford Press.
6. Kanojia J. Motivational Interviewing. (Invited book chapter). In Richardson M, Chan C, Chouhan KH, Fink SW, Hemstreet BA, Hume AL, et al, eds. *Pharmacotherapy Self-Assessment Program, 7th ed, Book 8: Science and Practice of Pharmacotherapy*. Lenexa, KS: American College of Clinical Pharmacy, 2011: 18.
7. Steinberg M. (2015). *Motivational Interviewing in Diabetes Care*. New York: Guilford Press.
8. Rubak S, Sandboek A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. *B J Gen Pract*. 2005; 55: 305-312.
9. Ekong G, Kanojia J. Motivational interviewing and outcomes in adults with type 2 diabetes: a systematic review of the literature. *Patient Education and Counseling*. 2016; 99(5):544-52.
10. Teater B, Kanojia J. Telephone-based motivational interviewing for medication adherence: A systematic review. *Translational Behavioral Medicine*. 2014; 4(4): 372-381.
11. Hill S, Kanojia J. Motivational interviewing as a behavioral intervention to increase HAART adherence in patients who are HIV-1: A systematic review. *AIDS Care*. 2012; 24(10): 1583-92.
12. Posidente CJ, Bucal KK, McClain WJ. Motivational interviewing: a tool to improve medication adherence? *Am J Health-Sys Pharm*. 2005; 62:1311-1314.
13. American Pharmacists Association. DOTL.MED: Pharmacist-delivered interventions to improve care for patients with diabetes. *JAPhA*. 2012; 52: 25-33.
14. Hanson BA, Eszerman DA, Roth MT, Lewis C, Buehler J, Wolsberger M, Watson LC. Performance of Medometer visual tool for measuring medication adherence and comparison with other measures. *JAPhA*. 2013; 53: 198-205.

AADE17

Contact Information

Jan Kavookjian, PhD

Associate Professor of Health Outcomes Research and Policy

kavooja@auburn.edu

334-844-8301

AADE17

DRIVING CHANGE
& INNOVATION

AADE17