



Guelph Family Health Team

Evaluating the impact of two different diabetes self-management education programs on patients' knowledge, attitude and behaviours

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Acknowledgements

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Collaborators at Diabetes Care Guelph

Agenda

- Background
- Research Objectives
- Study design & methodology
- Preliminary Results
- Concluding thoughts
- Implications to practice
- Questions

Prevalence of Diabetes

- By 2016, a predicted 3 million Canadians are expected to be living with diabetes
- Current prevalence of diabetes
 - Canada: 6.2%
 - Ontario: 8.8%
 - Guelph: 7%

based on Guelph FHT Random Practice searches in EMR software

Incidence of Diabetes

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Background

Education Goal:

- Patient Self-Management
 - Ability to make independent, informed decisions
- Self-management recommended goals:
 - Glycemic control (HbA1c < 7%)
 - Blood pressure (<130/80)
 - LDL cholesterol (< 2.00 mmol/L)

Holman et al. N Engl J, 2008

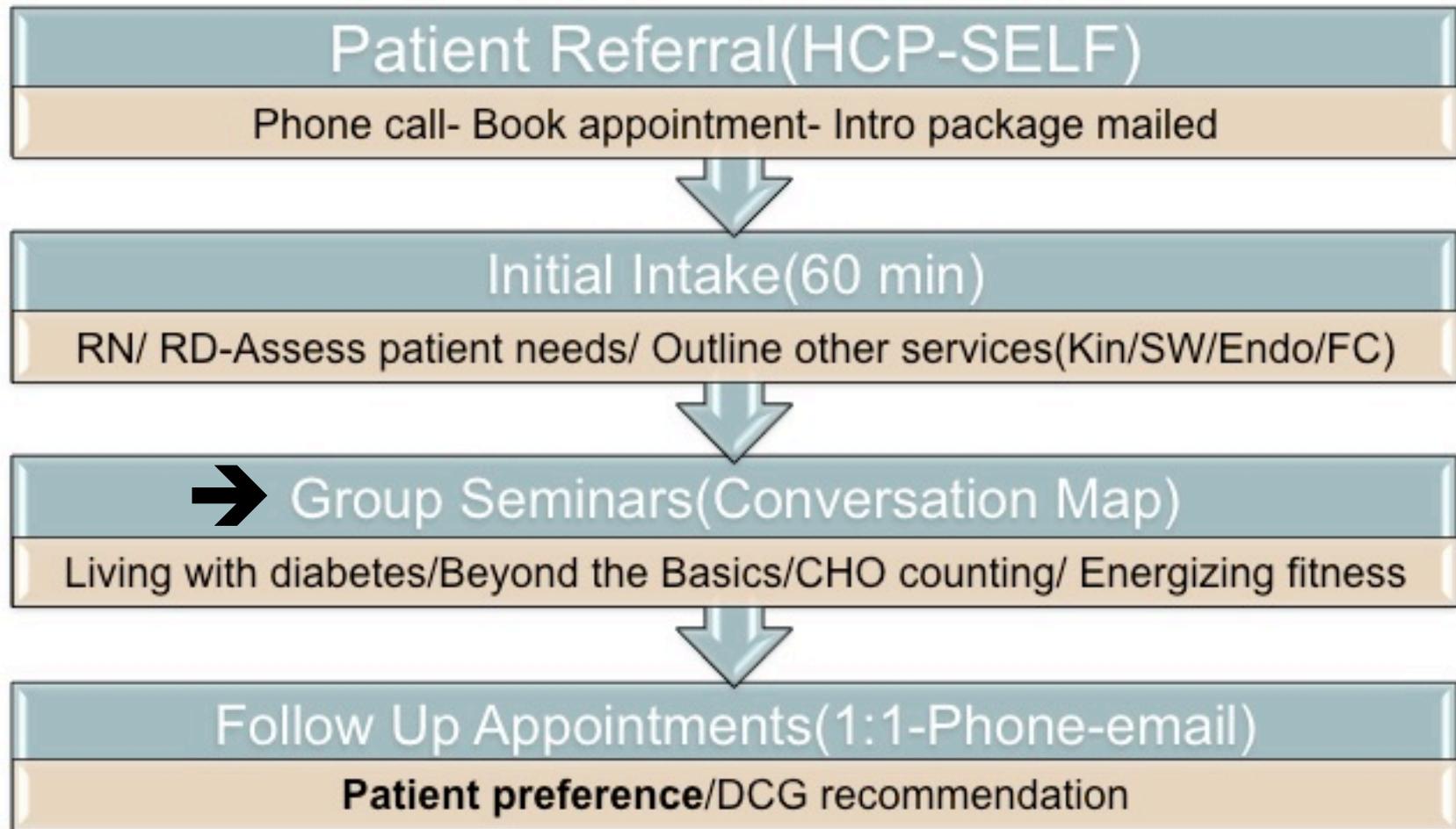
Saydah et al. JAMA, 2004; Resnick et al. Diabetes Care, 2006

Background

Domains of learning:

1. Cognitive (abstract, knowledge)
 - Lectures and self-learning manuals
2. Psychomotor (skill)
 - Demonstration and practice
3. Affective (feeling, attitudes, beliefs)
 - Group discussion, brainstorming, and values clarification

Diabetes Care Guelph



Conversation Maps



- Tool to engage people in conversations in order to facilitate learning
- Opportunity to share experiences with others Educators act as facilitators

Why Study Conversation Maps?

- A large number of people do not achieve recommended self-management goals
- No research to date that examines the impact of conversation maps on patients in diabetes self-management education

Purpose of Research

- Study the effectiveness of conversation maps compared to traditional methods of group education:
 - Scored Knowledge and attitude questionnaires
 - Pre-test/post test design
 - Focus groups
 - Patient perceptions
 - Reported behaviour changes

Definitions

- Conversation Maps
 - Table top display to facilitate learning
- Traditional Method
 - Powerpoint presentation with question and answer period

Research Objectives

Objective 1. To determine self-management knowledge and attitudes of patients with diabetes before and after diabetes education intervention

Objective 2. To evaluate the impact of conversation maps and traditional group education on knowledge and attitudes of patients

Objective 3. To compare patients' knowledge and attitude after receiving education

Research Objectives

Objective 4. To compare changes in patients' glycosylated hemoglobin (HbA1c)

Objective 5. To determine behavior changes and explore patient perceptions using focus groups

Study Design

- Participants randomly assigned to 2 intervention groups
- Pre-test/ post test questionnaire
 - Adapted from Michigan Diabetes Research and Training Center
 - 20-item Knowledge questionnaire
 - 33-item Attitude questionnaire
- Focus Groups - 3 months post intervention

Participants

Inclusion

- 19 to 65 years of age
- Diagnosis of type 2 diabetes within previous five years
- No previous diabetes education
- Read, write and speak the English language

Exclusion

- Diagnosed with a mental or psychosocial health condition
- Unable to provide written consent
- Have less than an eighth grade education

Methodology

VISIT 1

Convenience Sample of
participants recruited

Participants randomized
to conversation map
intervention

Participants randomized
to traditional group
education intervention

VISIT 2

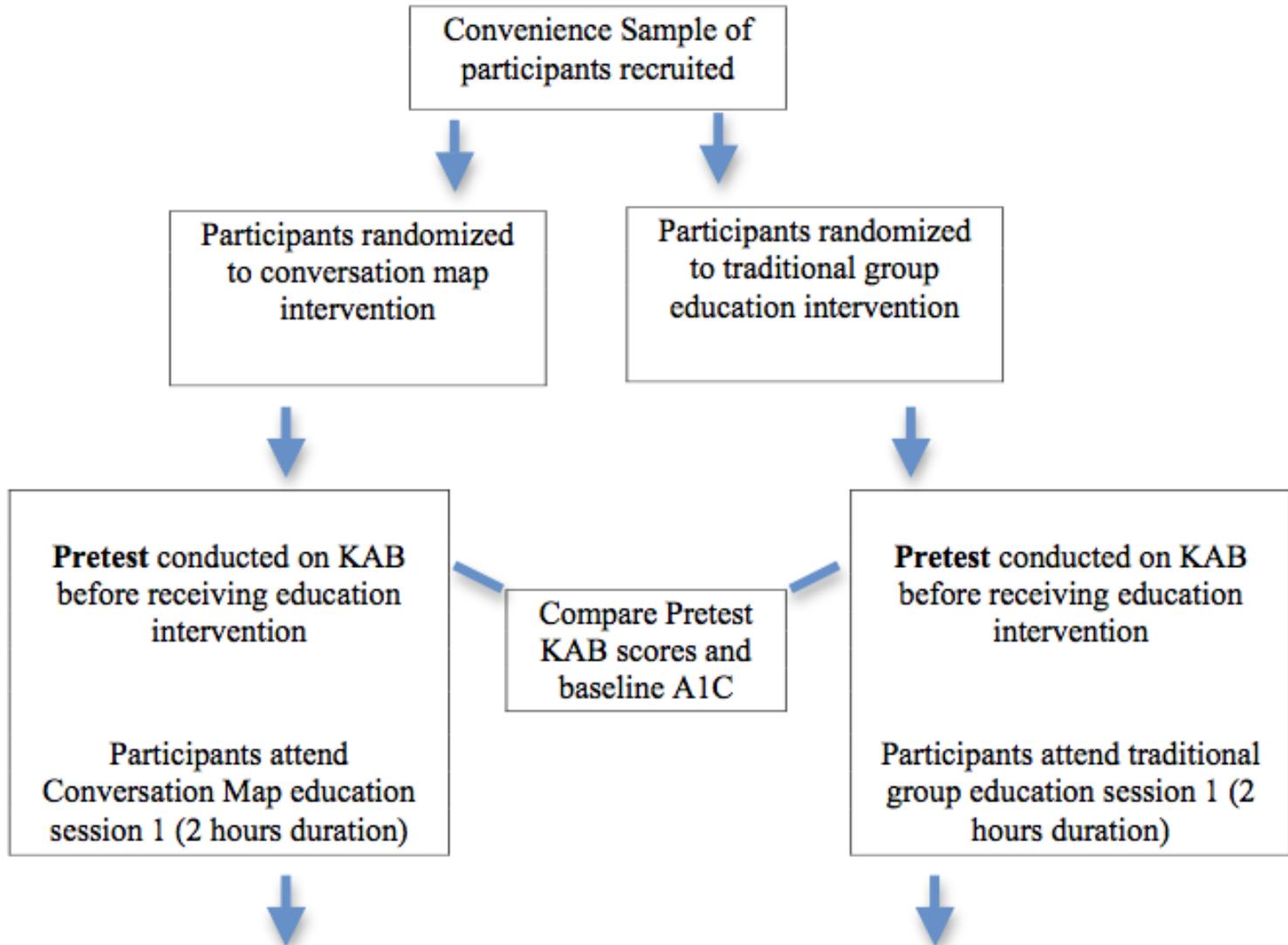
Pretest conducted on KAB
before receiving education
intervention

Participants attend
Conversation Map education
session 1 (2 hours duration)

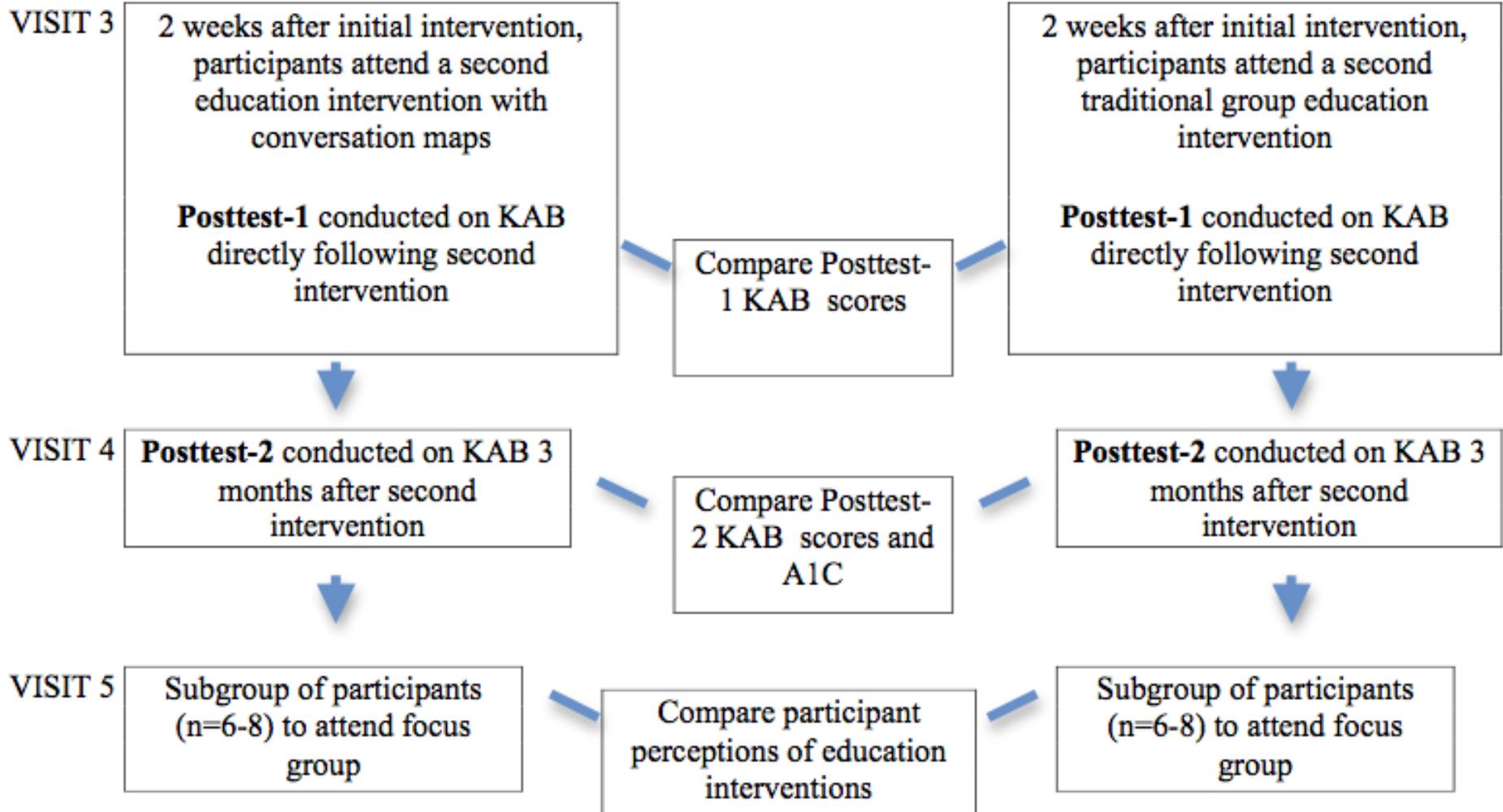
Compare Pretest
KAB scores and
baseline A1C

Pretest conducted on KAB
before receiving education
intervention

Participants attend traditional
group education session 1 (2
hours duration)



Methodology

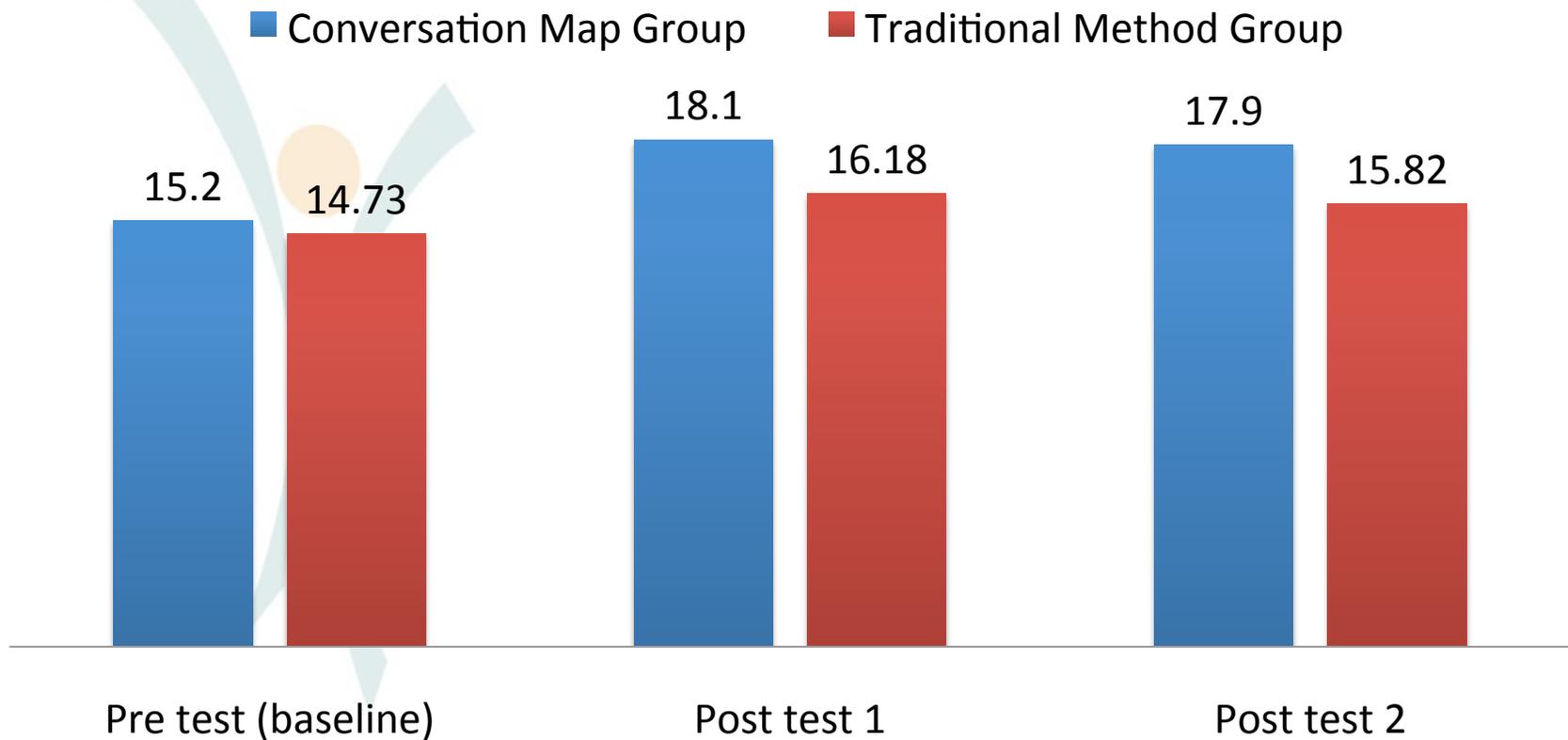


Baseline Characteristics

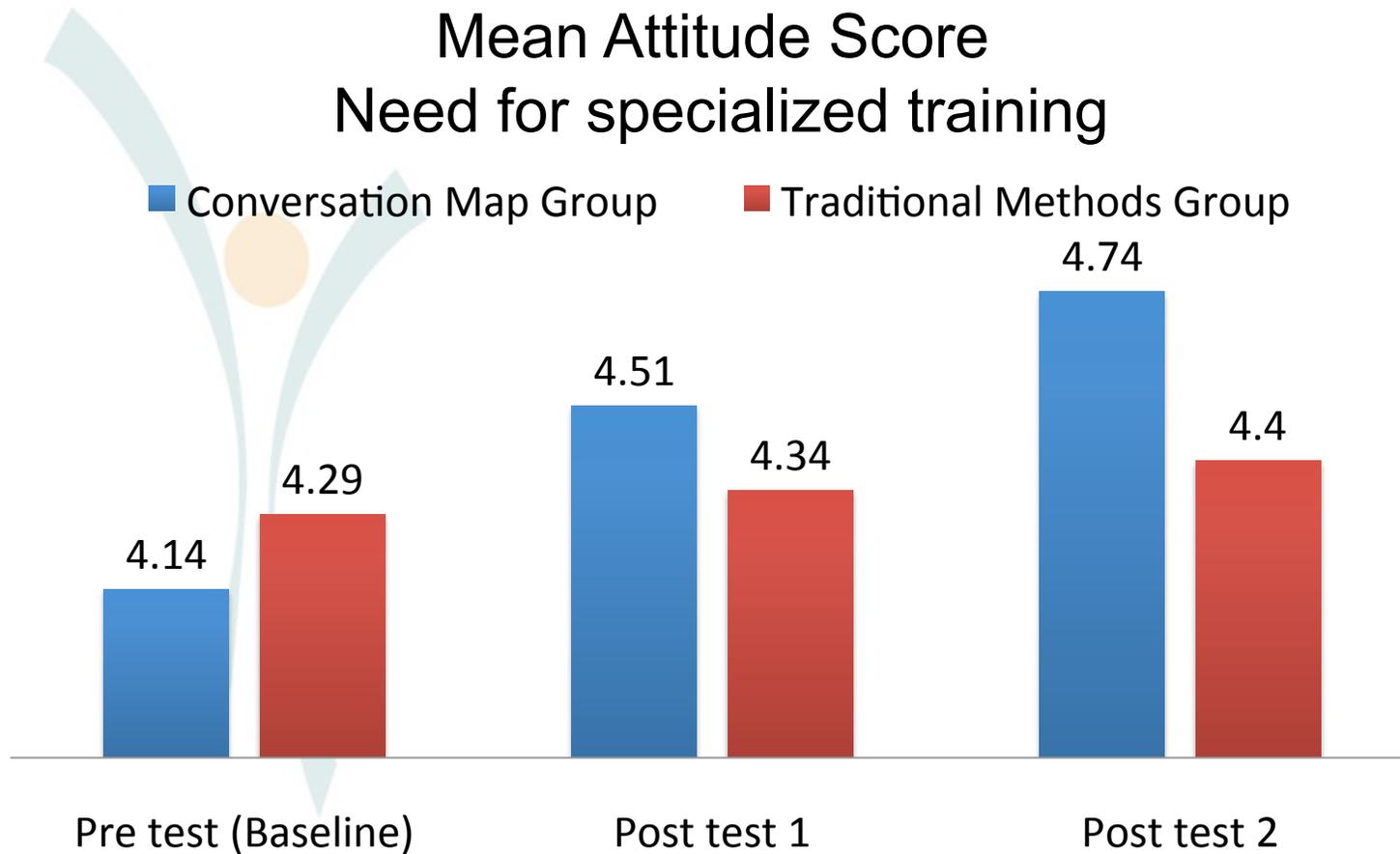
	Conversation map intervention group	Traditional education intervention group
Number of participants: n	10	11
Age		
Mean \pm SD	46.8 \pm 11.86	56.18 \pm 6.05
(Range)	(20 to 64.9)	(47 to 64)
Language (%)		
English	100	100
Gender (%)		
Male	50	60
Female	50	40
Marital Status (%)		
Married	50	64
Separated	20	0
Divorced	0	18
Common Law	10	0
Single	20	18
Education Level (%)		
Finished high school	30	46
Trade school/college diploma	40	36
University undergraduate degree	30	0
University graduate degree	0	18
Duration of diabetes (%)		
\leq 6 months	60	64
$>$ 6 months	40	36

Preliminary Results

Mean Knowledge Changes

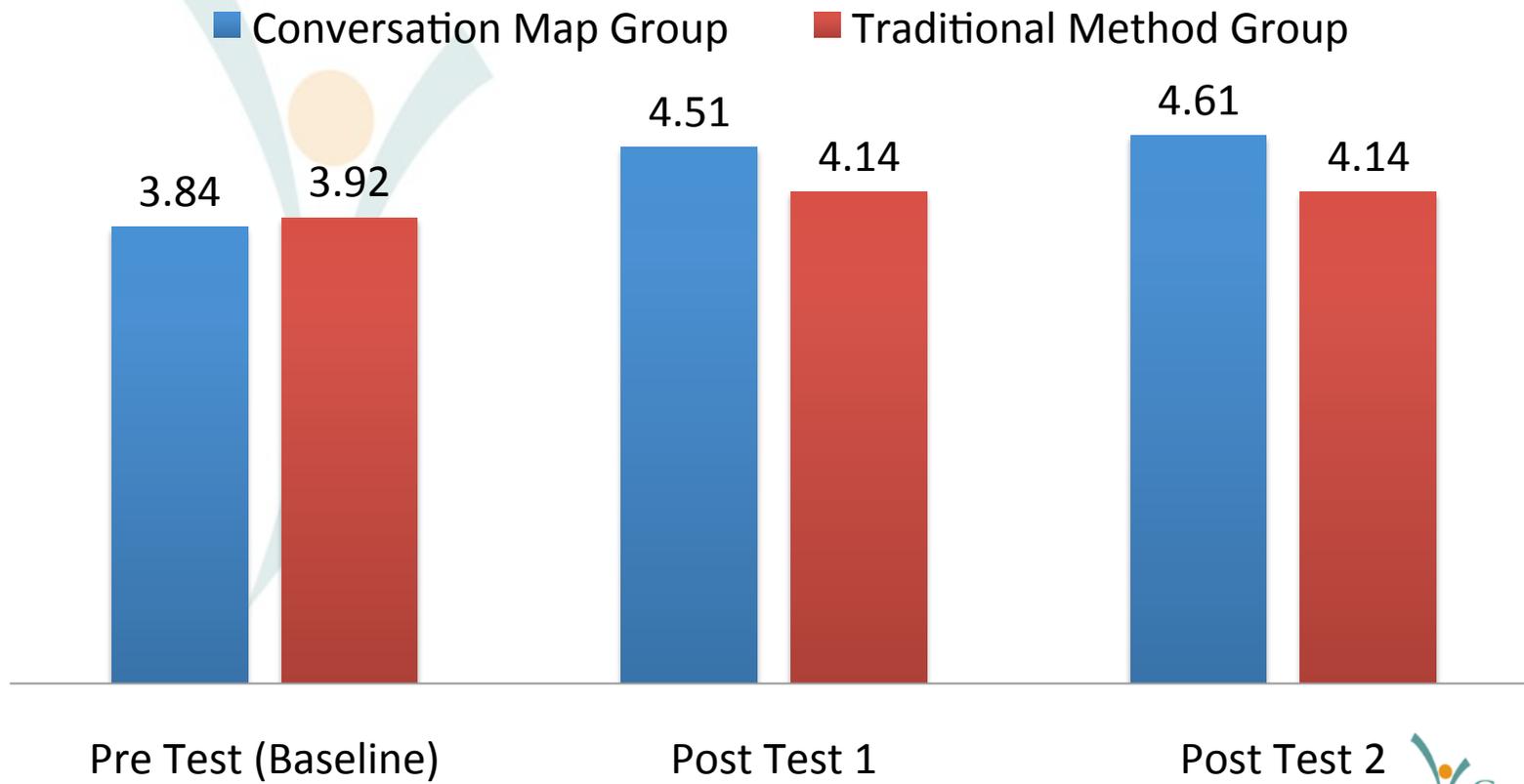


Preliminary Results:

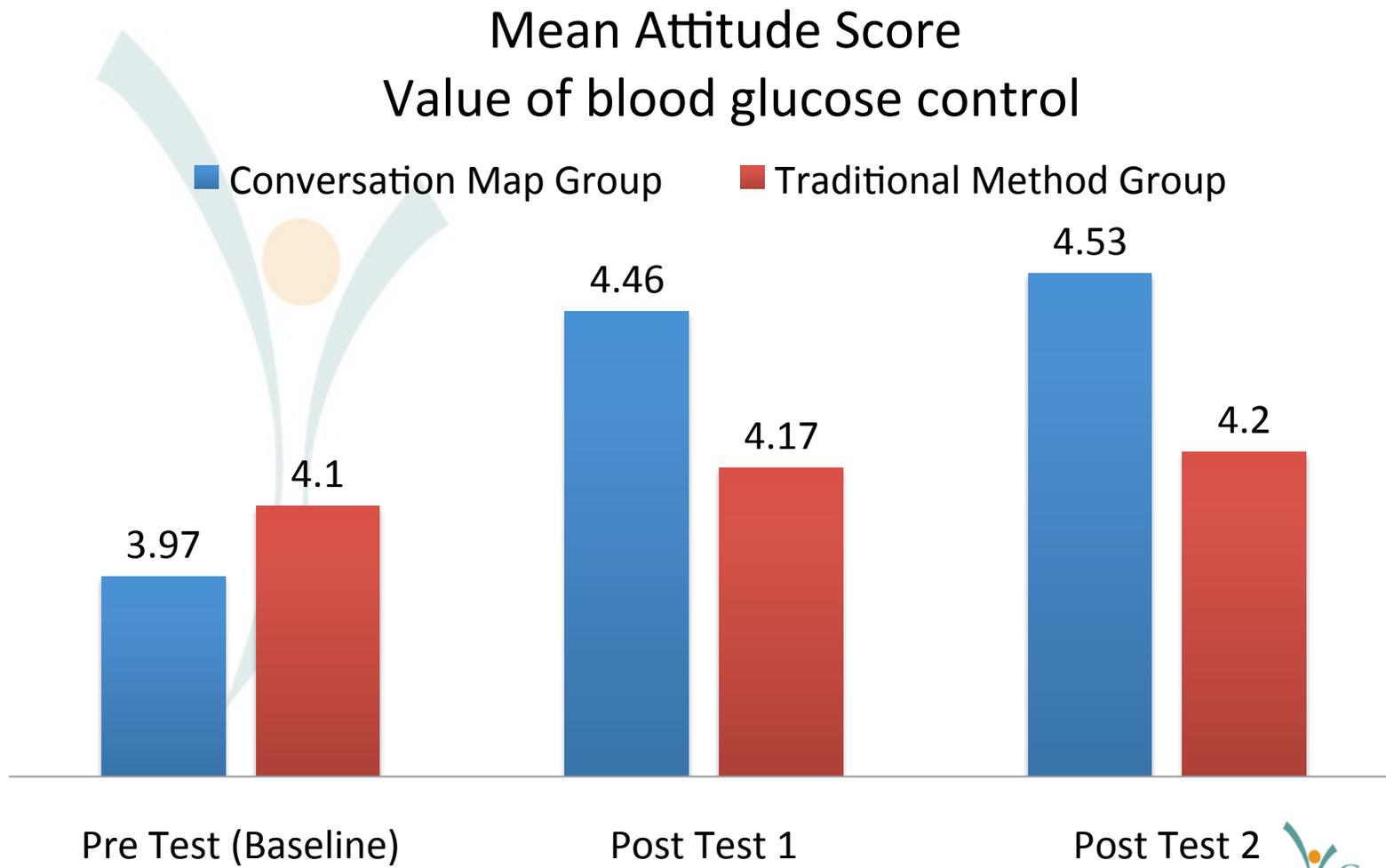


Preliminary Results:

Mean Attitude Score Seriousness of Type 2 DM

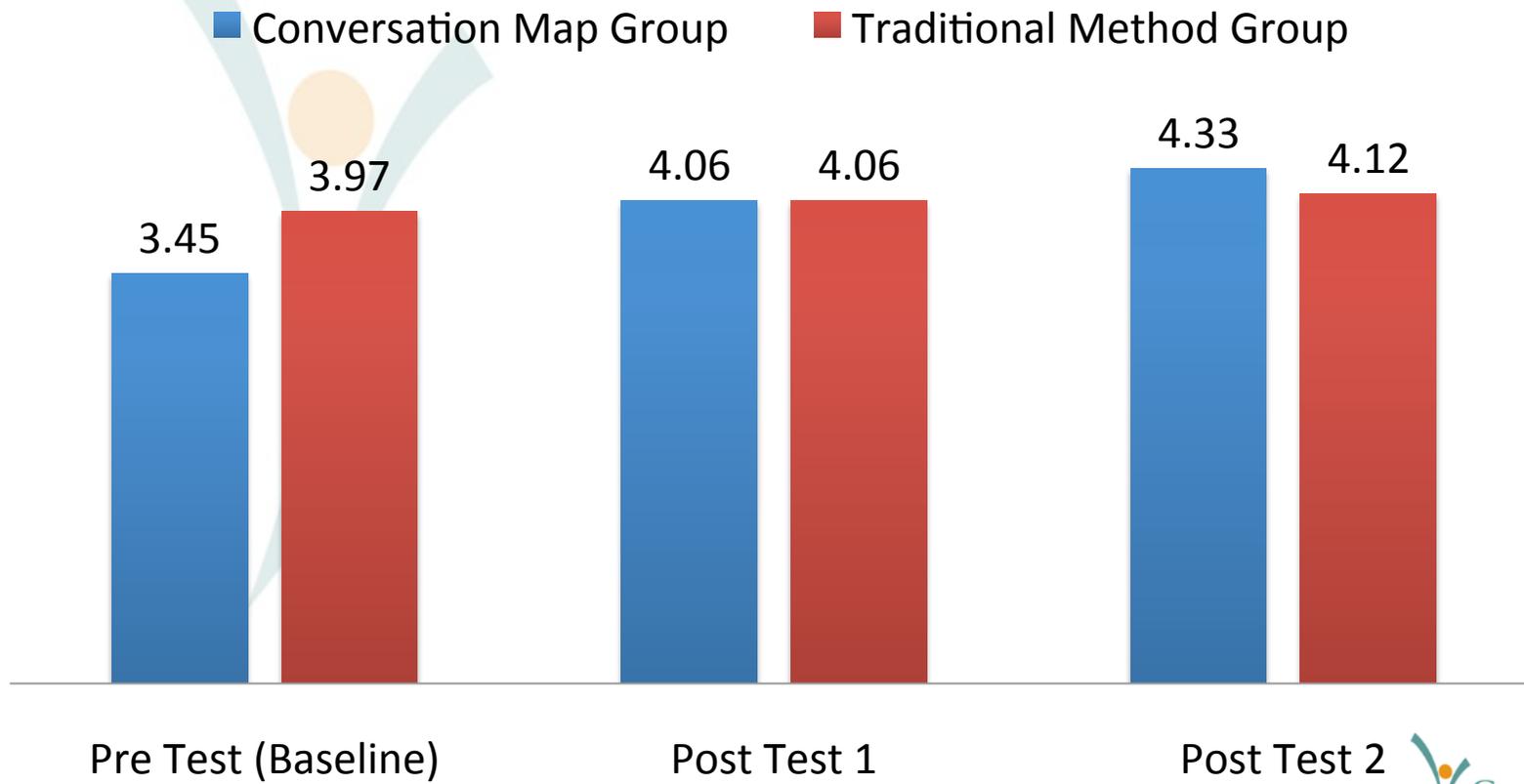


Preliminary Results:



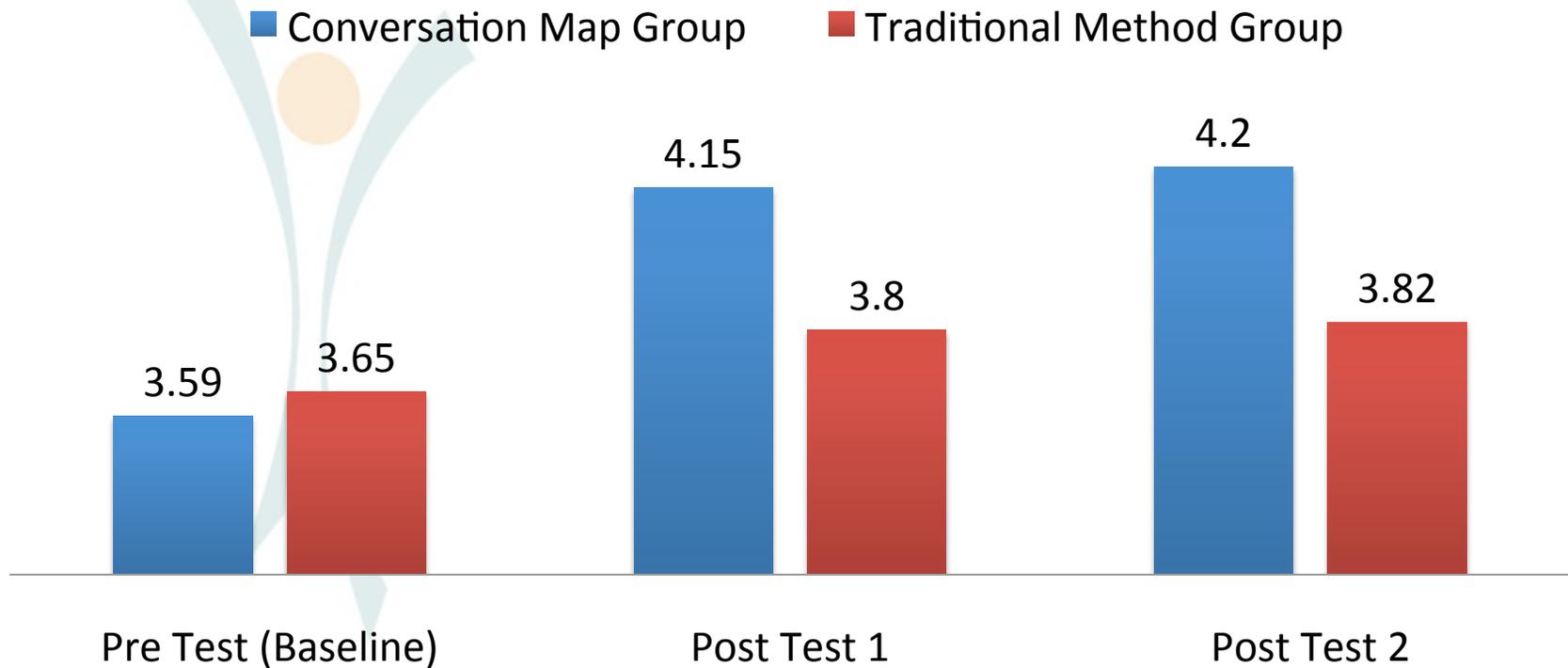
Preliminary Results

Mean Attitude Score Psychosocial Impact of DM



Preliminary Results

Mean Attitude Score Patient Autonomy



Preliminary Results

Between group differences	Post Test 1	Post Test 2
Knowledge	ns	ns
Need for special training	ns	p<0.05
Seriousness of type 2 DM	p<0.05	p<0.05
Value of blood glucose control	ns	p<0.05
Psychosocial impact of type 2 DM	p<0.05	p<0.05
Patient Autonomy	ns	ns

ns =no statistical significance

HbA1c Results

- Conversation Map Group
 - HbA1c levels were significantly decreased
mean difference 1.2%, $P < 0.05$
- Traditional Method Group
 - HbA1c levels were significantly decreased
mean difference 0.76%, $P < 0.05$
- No significant difference in HbA1c changes
between groups

Focus Group Results

Common Themes

- Benefits of Early Education Uptake
- The Need for Specialized Education
- Education Encouraged Multiple Lifestyle Management Behaviour Changes

Conversation Map

- Experiential Learning Environment
- Self-Directed Approach to Learning
- An Attitude of Feeling Socially Supported
- Visualization of Specific Diabetes Management Needs

Traditional Method

- Low Group Participation

Conversation Map Themes

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Traditional Method Theme

- Low Group Participation

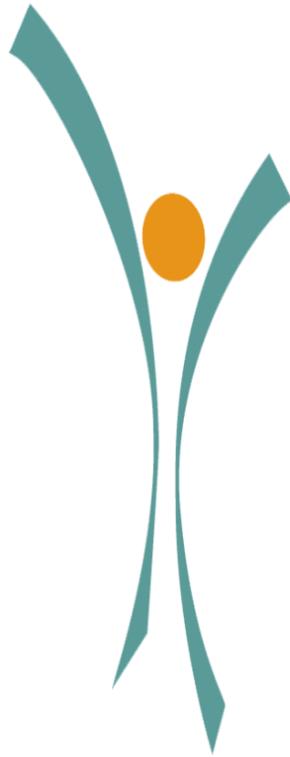
“I think when you get to our age, it’s not telling us these vegetables are good for us. I know what is good and I know what is not good. I want to create conversation and discuss my struggles with others and know that I’m not alone. The information you were trying to give is valued but the lesson plan needs to be revised.”

Concluding Thoughts

- Conversation maps are an effective way of providing diabetes education
 - Effective at improving patient knowledge and supporting knowledge retention, and creating behaviour change
 - Results indicate CM may have a greater impact on patient attitudes toward diabetes than traditional methods

Implications to Practice

- Practice-based evidence for future program development
- Platform for further research in diabetes education



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THANK YOU

QUESTIONS?