

Introduction

- ❖ Diabetes is a chronic, multifactorial disease
- ❖ Hgb A1C- measures glycemic control
- ❖ Patients need knowledge and skills to manage the condition properly-diabetes self-management
- ❖ Diabetes self-management Education Support (DSMES) are accredited programs with positive health outcomes

Background & Significance

- ❖ 7th leading cause of death in US
- ❖ Estimated cost 327 billions annually
- ❖ Severe complications: blindness, kidney failure, heart disease, stroke, lower-limb amputations
- ❖ 2.3 times higher medical costs for patients
- ❖ Projected 1 out of 3 individuals will develop the disease by 2050
- ❖ CDC strongly advises referral to DSMES services from initial diagnosis and as ongoing support
- ❖ Underutilization of DSMES services despite positive outcomes
- ❖ Primary care project site does not assess for diabetes self-management nor refer to DSMES services.

Aims & Objectives

Aims:

- ❖ Identify individuals who need improvement in diabetes self-management
- ❖ Properly refer these patients to diabetes self-management education support services that could help them achieve positive clinical outcomes
- ❖ Promote awareness of the benefits of diabetes self-management education services among primary care providers and patients.

Objectives:

- ❖ Identify the number of patients diagnosed with type II diabetes, ages between 45y/o to 75y/o, with the most recent hemoglobin A1C not at target, greater than 7%.

- ❖ Assess patients' diabetes self-management levels by utilizing a valid and reliable tool, the Diabetes Self-Management Questionnaire (DSMQ).
- ❖ Compare results from the DSMQ, and the most recent Hemoglobin A1C levels, perform statistical analysis.
- ❖ Perform brief educational sessions for patients and providers, and to complete surveys at the end of the sessions

Methodology

Design:

Quality Improvement study: focused retrospective chart review, questionnaires, surveys

Setting:

Primary care office in northern New Jersey

Study population:

English-speaking individuals with a diabetes type II diagnosis, ages 45-75 y/o with most recent Hgb A1C > 7%, 11 patients and 4 providers participated in the project.

Consent

Consent obtained in person
Voluntary enrollment
Covered all CITI issues

Study interventions:

- Focused retrospective chart review- hgb A1C levels as clinical indicator for glycemic control
- Patients completed Diabetes self-management questionnaire (DSMQ)
- Statistical analysis of questionnaire results and hgb A1C levels
- Patients and providers participated in educational session about DSMES-toolkit from CDC
- Patients and providers completed survey at the end of educational session.

Diabetes Self-Management Questionnaire (DSMQ)

The following statements describe self-care activities related to your diabetes. Thinking about your self-care over the last 8 weeks, please specify the extent to which each statement applies to you.

Note: If you monitor your glucose using continuous interstitial glucose monitoring (CGM), please refer to this where 'blood sugar checking' is required.

	applies to me very much	applies to me to a considerable degree	applies to me to some degree	does not apply to me
1. I check my blood sugar levels with care and attention. <input type="checkbox"/> Blood sugar measurement is not required as a part of my treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The food I choose to eat makes it easy to achieve optimal blood sugar levels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I keep all doctors' appointments recommended for my diabetes treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I take my diabetes medication (e.g. insulin, tablets) as described. <input type="checkbox"/> Diabetes medication/injection is not required as a part of my treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Occasionally I eat lots of sweets or other foods rich in carbohydrates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I record my blood sugar levels regularly (or analyse the value I get with my blood glucose meter). <input type="checkbox"/> Blood sugar measurement is not required as a part of my treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I tend to avoid diabetes-related doctors' appointments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I do regular physical activity to achieve optimal blood sugar levels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I strictly follow the dietary recommendations given by my doctor or diabetes specialist.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I do not check my blood sugar levels frequently enough as would be required for achieving good blood glucose control. <input type="checkbox"/> Blood sugar measurement is not required as a part of my treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I avoid physical activity, although it would improve my diabetes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I tend to forget to take or skip my diabetes medication (e.g. insulin, tablets). <input type="checkbox"/> Diabetes medication/injection is not required as a part of my treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Sometimes I have real 'food binges' (not triggered by hypoglycaemia).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Regarding my diabetes care, I should see my medical practitioner(s) more often.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I tend to skip planned physical activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. My diabetes self-care is poor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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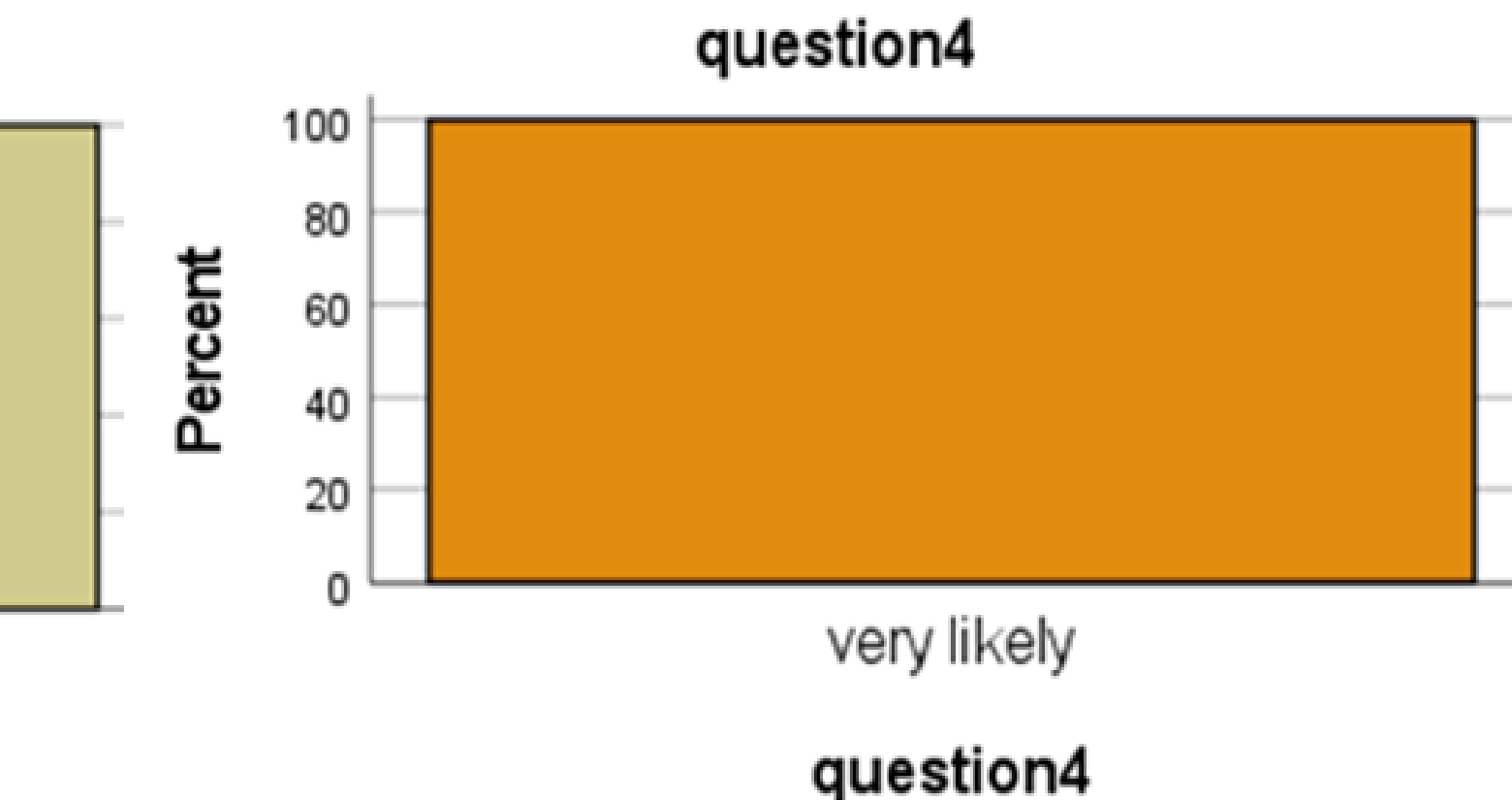
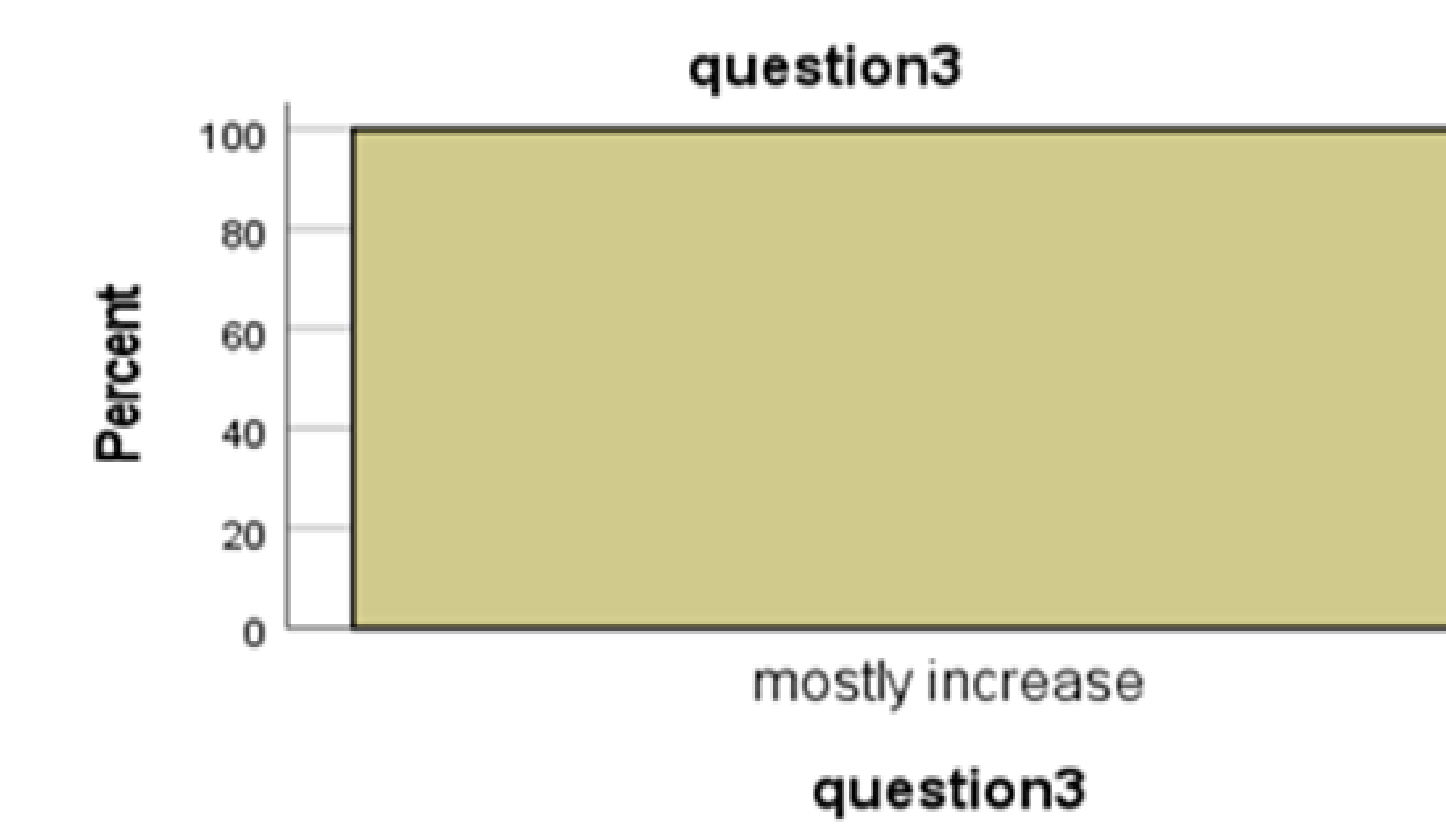
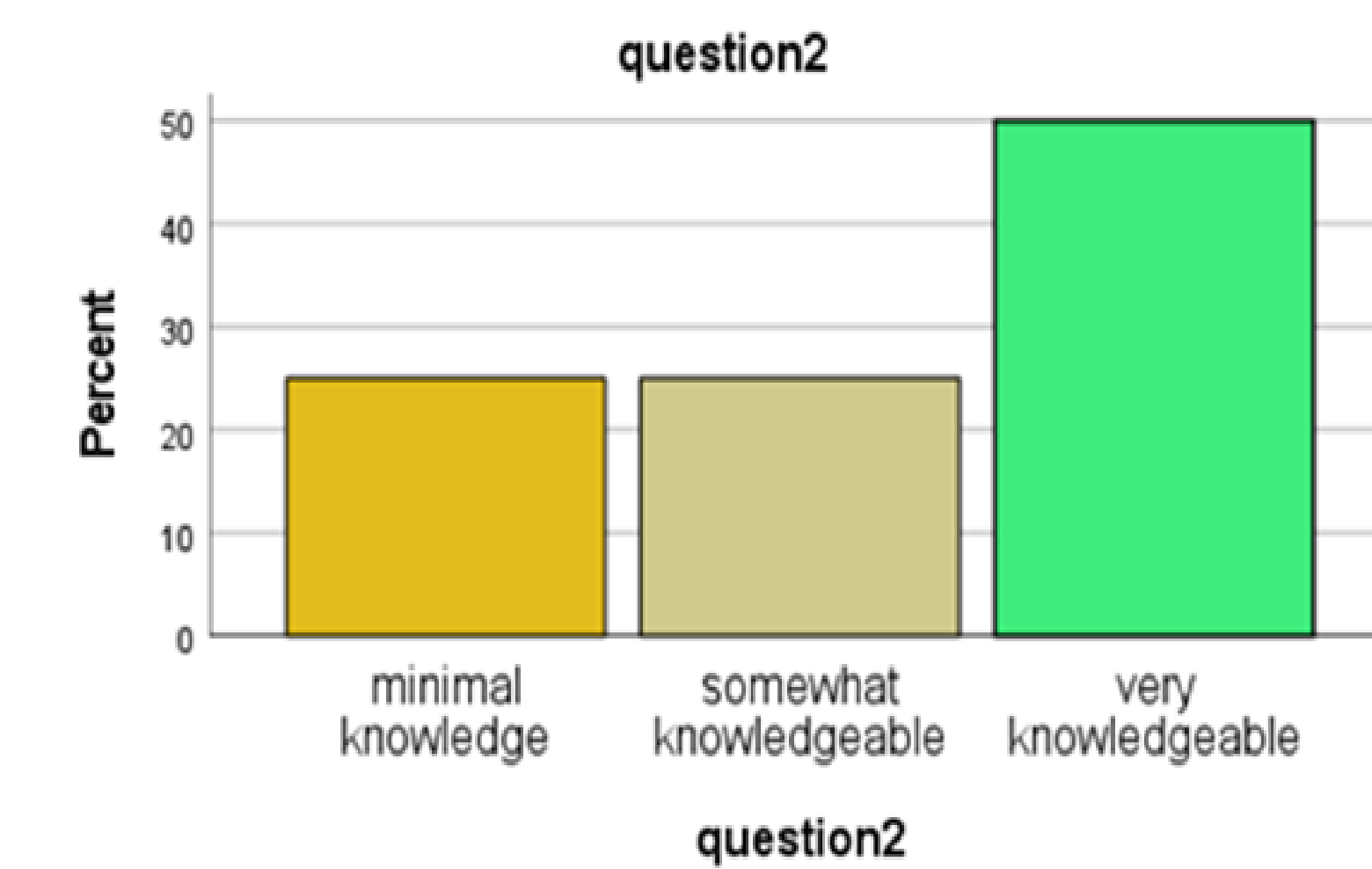
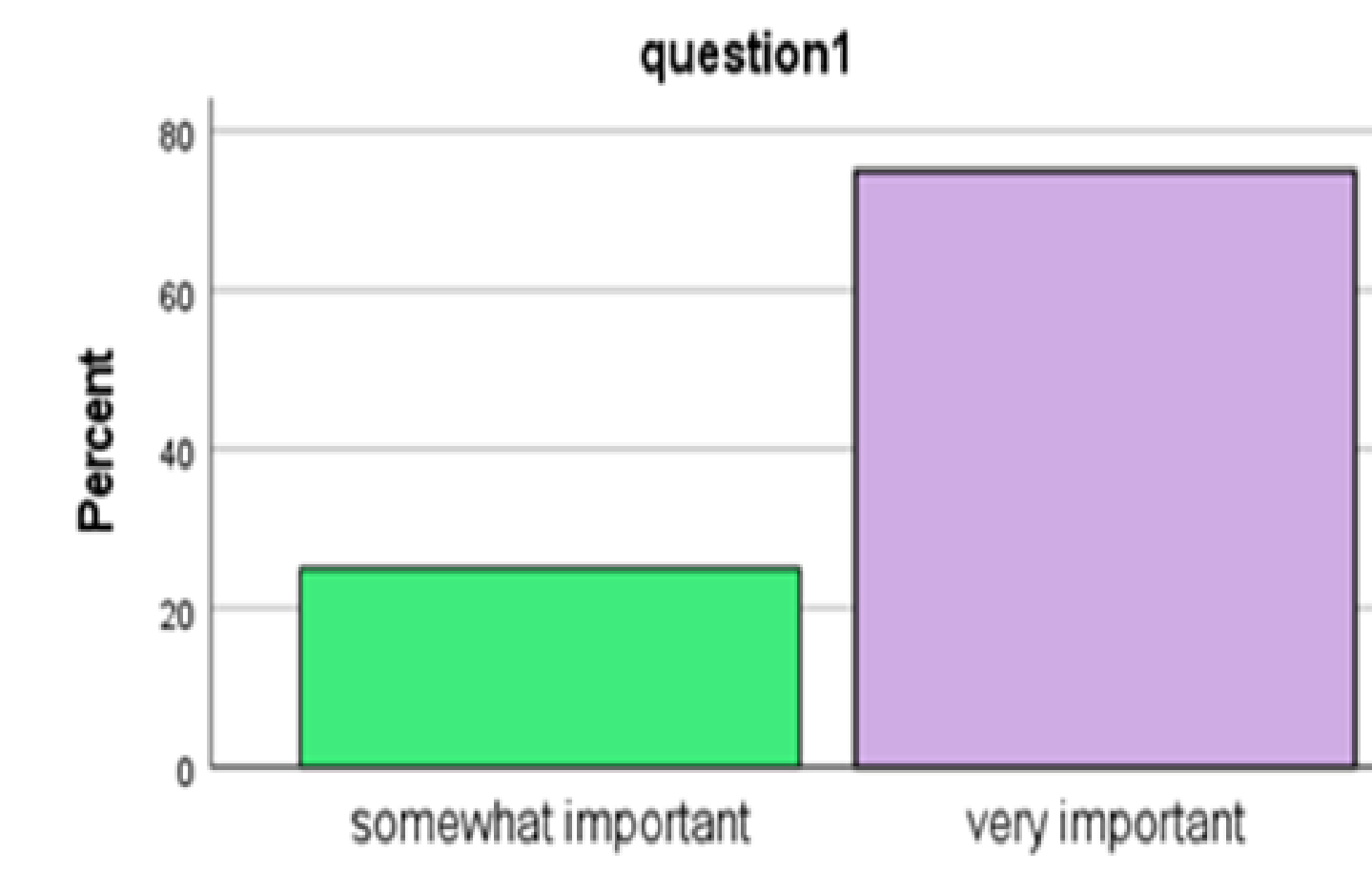
Results

- ❖ **Correlation test:** Hgb A1C values (1st variable) and results from DSMQ (2nd variable)
Pearson correlation: .057
Significance: .869, not significant

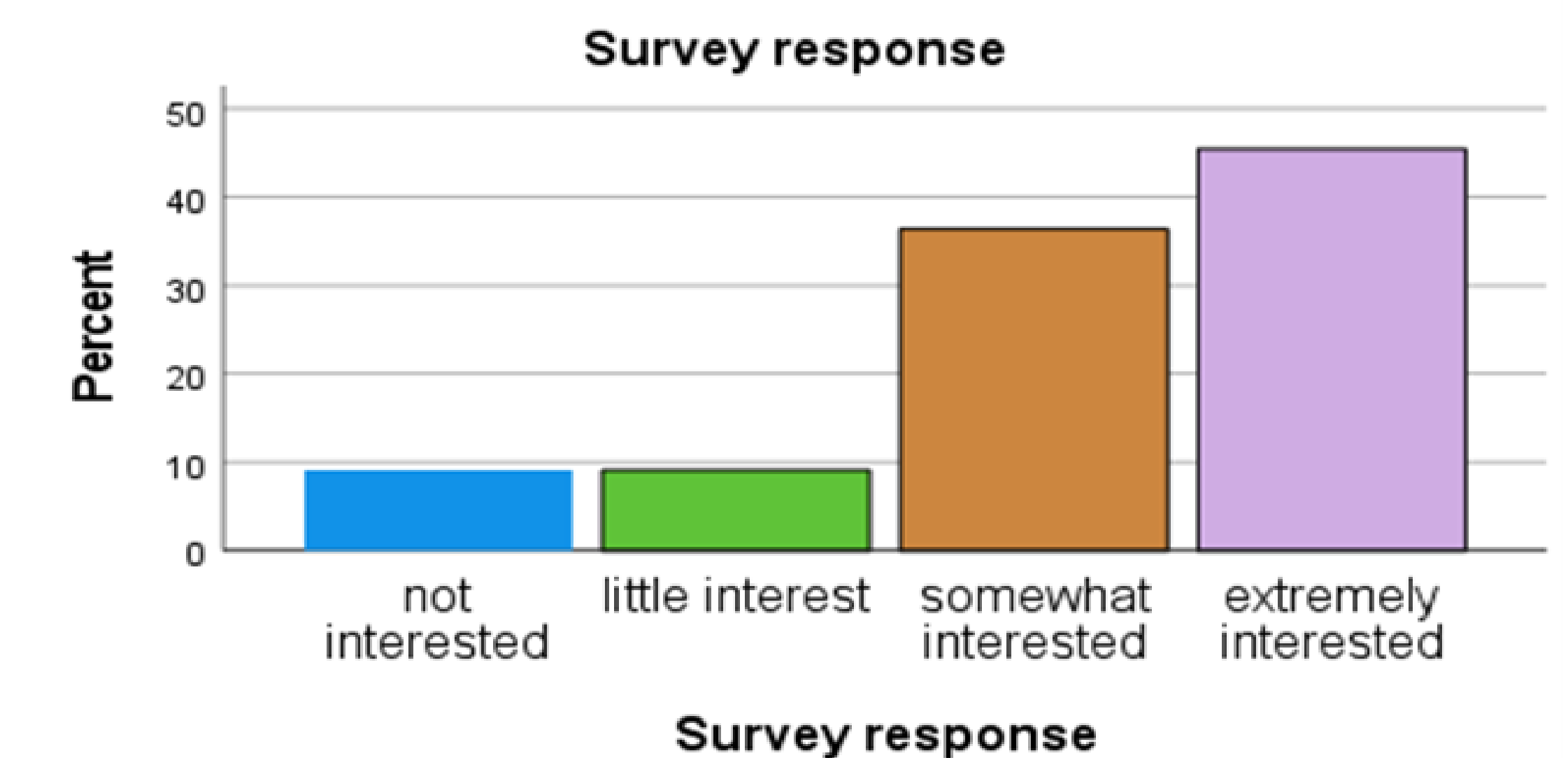
		Hemoglobin A1C	DSMQ results
Hemoglobin A1C	Pearson Correlation	1	.057
	Sig. (2-tailed)		.869
	N	11	11
DSMQ results	Pearson Correlation	.057	1
	Sig. (2-tailed)	.869	
	N	11	11

- ❖ **Survey for providers:** 75% found very important to assess self-management levels, 50% were very knowledgeable about DSMES, 100% mostly increased their knowledge in DSMES, 100% most likely to refer patients to DSMES.

References



- ❖ **Survey for patients:** 9.1% had no interest in a referral for DSMES, 9.1% had little interest, 36.4% were somewhat interested, 45.5% were extremely interested in a referral.



Discussion/Implications

- ❖ Cost-effectiveness- prevents complications, reduces hospitalizations
- ❖ Improved skills, knowledge- better quality of life
- ❖ Identified patients with hgb A1C >7%
- ❖ Increased awareness to assess for diabetes self-management
- ❖ Promoted referrals to DSMES services
- ❖ Potential for change in healthcare policy to increase reimbursement, allocate funds for services to uninsured community.

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