

# Effect of Diabetic Teaching on Patient Comprehension

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OFFICE OF CIVIC EDUCATION INITIATIVES

## Background

•Diabetes is a disease that prevents your body from properly using the energy from the food you eat. It occurs when:

•The pancreas produces a small amount of insulin or no insulin at all.

Or...

•The pancreas makes insulin, but the body does not respond to the insulin as it should.

•Type 1 Diabetes: occurs because the insulin-producing cells of the pancreas are damaged. People with this type produce little or no insulin, causing blood sugar to rise. It is common in people less than 20 years old.

•Type 2 Diabetes: occurs because people cannot produce enough insulin to overcome the resistance from the body's cells, which causes sugar to not be able to get into the body's cells for use as energy. This causes blood sugar to rise. It is common in people over age 45 who are overweight.

•Diabetic teaching is the education of the disease, diabetes, to newly diagnosed or previously diagnosed patients. It is most commonly taught by pharmacists and nurses who specialize in diabetic teaching.

•Diabetic teaching involves education on insulin injection, testing blood sugar, symptoms of high and low blood sugar, nutrition, medications, and physical activity.

## Hypothesis

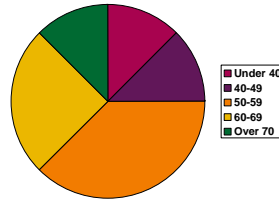
Diabetic teaching is effective on patient comprehension.

## Methodology

1. A set of questions for before and after a diabetic teaching consult was developed.
2. When a physician ordered a diabetic teaching consult, a patient was asked for consent to assess their knowledge in the form of survey questions for before and after the teaching.
3. Each consenting patient was assigned a subject number. (1,2,3, etc...) The number of patients with orders for diabetic teaching consults daily was small enough that the patients' specific information did not need to be kept.
4. Before they received diabetic teaching, an oral survey was given about topics pertaining to their diabetes. Their answers were evaluated.
5. After they received diabetic teaching, the patients were surveyed again about topics related to their diabetes.
6. The before and after results were compared in the form of charts and graphs to see how effective the diabetic teaching was.

## Data

Age Ranges of Surveyed Diabetic Patients



Patients' Knowledge on Topics in Diabetes Prior to Diabetic Education

\*"X" indicates knowledge

Topic	Pt. 1	Pt. 2	Pt. 3	Pt. 4	Pt. 5	Pt. 6	Pt. 7	Pt. 8
Goal Blood Sugar	X	X	X	X	X	X	X	X
Time of Day to Check Blood Sugar	X	X	X	X	X		X	X
Hemoglobin A1c			X					X
Signs/Symptoms of High Blood Sugar	X	X	X	X	X	X	X	X
Signs/Symptoms of Low Blood Sugar	X		X	X				X
Treatment for Low Blood Sugar	X	X	X	X	X	X	X	X
Foods to Avoid	X	X	X	X	X	X	X	X

Patients' Knowledge on Topics in Diabetes Prior to Diabetic Education

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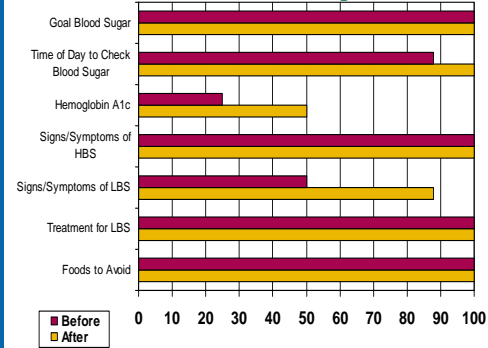
Topic	Pt. 1	Pt. 2	Pt. 3	Pt. 4	Pt. 5	Pt. 6	Pt. 7	Pt. 8
Goal Blood Sugar	X	X	X	X	X	X	X	X
Time of Day to Check Blood Sugar	X	X	X	X	X	X	X	X
Hemoglobin A1c			X		X		X	X
Signs/Symptoms of High Blood Sugar	X	X	X	X	X	X	X	X
Signs/Symptoms of Low Blood Sugar	X		X	X	X	X	X	X
Treatment for Low Blood Sugar	X	X	X	X	X	X	X	X
Foods to Avoid	X	X	X	X	X	X	X	X
Learned Something New	X	X		X	X	X	X	X

Diabetic Educator

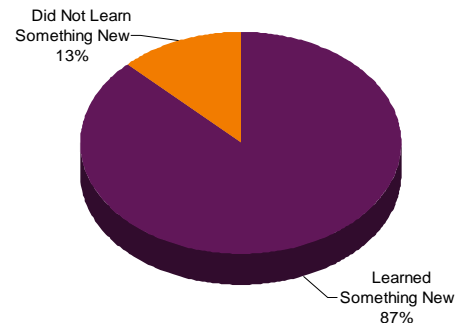
Pt. 1	Pt. 2	Pt. 3	Pt. 4	Pt. 5	Pt. 6	Pt. 7	Pt. 8
RN	RN	RN	RPh	RPh	RPh	RPh	RPh

## Results

Patients' Knowledge on Topics Before and After Diabetic Education in Percentages



Percentage of Patients' Knowledge of Something New After Diabetic Education



## Conclusions

- Diabetic teaching proved to be effective on patient comprehension
- Overall, after a teaching patients knew more than before they received the teaching.
- Topics such as "Goal Blood Sugar," "Signs/Symptoms of High Blood Sugar," "Treatment for Low Blood Sugar," and "Foods to Avoid" all had 100% knowledge on the questions asked in these topics for both before and after the diabetic teaching.
- The topic that patients had least knowledge with was "Hemoglobin A1c." Before receiving diabetic education, only one patient knew what hemoglobin A1c was. After receiving diabetic education, four patients knew what hemoglobin A1c was.

## Recommendations

- It is recommended that only one profession conduct diabetic education, preferably pharmacists. One profession conducting the teaching keeps the confusion level down and also keeps the study more constant for the results of the patients.
- Based on the collected data, the outcome of knowledge of patients was better when a pharmacist taught rather than when any other field conducted the education.
- If this study were to be conducted again in the future, there should be a larger group to assess.

## Special Thanks

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