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Assessing Patient-Provider Collaboration in Subjects with Type 2 Diabetes in Jamaica and Effects on Glycemic Control

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Comments
Medical student Paul Daniel participated in this study as part of the Senior Scholars research program at the University of Massachusetts Medical School.

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Type 2 diabetes mellitus is a growing health problem worldwide. In Jamaica, the incidence of type 2 diabetes has been steadily increasing, which can lead to end-stage renal disease, extremity amputation, and blindness, respectively. Timely screening and outpatient referrals, as well as good glycemic control, are crucial for management of this disease. Recent trends in the United States for management of chronic conditions such as type 2 diabetes focus on patient-centeredness which advocates for increased collaboration between caregivers such as nurses and physicians with patients to produce a management plan that is feasible for the patient.

In Jamaica, the incidence of type 2 diabetes has steadily increased since 1960, with current estimates of a diabetic population exceeding 300,000. Some research suggests poor glycemic control in the population and high rates of complications such as retinopathy.

As a countermeasure, organizations such as the Diabetes Association of Jamaica have implemented educational workshops to make the general population more aware of this disease and its complications. Beyond the education of the public and management by physicians, it would be interesting to assess the perception of patient-centeredness in Jamaicans suffering from type 2 diabetes and determine if there are any implications for management of their condition.

To compare Patient Assessment of Care of Chronic Conditions (PACIC) scores to hemoglobin A1C values in subjects with type 2 diabetes and to determine the correlation between patient-physician collaboration and glycemic control.

The Patient Assessment of Care of Chronic Conditions (PACIC) questionnaire was our measure of patient-to-physician collaboration. The PACIC is a validated instrument that was used to assess the level of collaboration between physicians with chronic disease feel they have with their healthcare providers. The PACIC is a measure of collaboration that has been used in a variety of settings for patients with chronic conditions. This study was conducted in a sample population in Jamaica. The PACIC is a validated instrument that was been used to assess the patient-to-physician collaboration in type 2 diabetics in a sample population in Jamaica.

Patients recruited from the diabetes clinic at the University of the West Indies hospital in Mona, Jamaica on August 15, 2011 and August 22, 2011.

Subjects were screened and 19 were ultimately enrolled after meeting the following inclusion criteria:
1. Male or female 18 years old and above diagnosed with type 2 diabetes as confirmed by laboratory testing by one of the following: a fasting plasma glucose ≥ 126 mg/dL (7 mmol/L) (no caloric intake for > 8 hours) with symptoms (polyuria, polydipsia, weight loss) or with random plasma glucose ≥ 200 mg/dL (11.1 mmol/L), or a HbA1c ≥ 6.5%.
2. Ability to provide written informed consent.
3. Ability to complete PACIC questionnaire (subjects had to be able to read and comprehend English)

Subjects were excluded based on the following criteria:
1. Males and females without a documented history of type 2 diabetes (as described in inclusion criteria)
2. Pregnant women
3. Patients without hemoglobin A1c testing within 3 months of participation

The variables measured in this study were:
- Patient Age
- Current Therapy:
  - No therapy
  - Lifestyle Modification
  - Insulin
  - Oral hypoglycemic agent
  - Insulin + Oral hypoglycemic agent
- Years since diagnosis
- HbA1c value
- PACIC scores

The overall PACIC score measures patient-to-physician collaboration with a range from a low of 1.0 to a high of 5.0. The estimated Pearson correlation, but no statistically significant correlation was found (< .184). Additionally, HbA1c did not correlate significantly with the other variables of patient age (-.488), and years diagnosed with diabetes (-.244). These data were also re-computed using non-parametric correlation coefficients to take small sample sizes into account. However, no statistically significant correlations were found.

Likely the study is underpowered to find statistically significant variables. Likely the correlations between PACIC scores and other key study variables. (See Figure 2 below)

The study population was predominantly female (78.9%), 15 women/4 men, had an age range of 33-78 years (mean 55), years diagnosed with diabetes 0.03 – 32 years (mean 14), Hemoglobin A1c values from 5.40% – 15.5% (mean 10.8%), and with a majority (42.1%; 8 participants) receiving a combination of insulin and an oral hypoglycemic agent as a treatment modality. (See Figure 1)

In summary, it is unclear what impact patient-to-physician collaboration will have on glycemic control in type 2 diabetics. However, if results are favorable, as suggested by past research, and demonstrate a clinical benefit, the PACIC could potentially be an additional tool for physicians treating type 2 diabetes to control this disease and limiting complications.

To conclude, implementation, data collection and administration of the questionnaire was straightforward and did not interfere or prolong patient appointments. Thus, testing patient-to-provider collaboration could potentially be a component of visits for patients with chronic illness. However, further studies are needed to evaluate efficiency and cost-effectiveness.

CONCLUSIONS

REFERENCES

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REFERENCES

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• Standards of Medical Care in Diabetes - 2013. American Diabetes Association.