ORIGINAL RESEARCH

Group-Based Diabetes Education: Impact on Indicators of Health Outcomes, Access and Satisfaction Over 24 Months

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ABSTRACT

This study evaluated the impact of implementing group-based diabetes education with an individualized component. The variables evaluated were access to service, selected health indicators and client satisfaction. Two hundred and forty-four clients with type 2 diabetes (60 newly diagnosed and 184 previously diagnosed) were recruited during year 1 of this 2-year study. Selected health indicators were measured at baseline and at 12 and 24 months after the introduction of group sessions. Data were also collected to evaluate access and client satisfaction. At 12 months, 90.9% of newly diagnosed clients (n=20) had reduced their glycated hemoglobin (A1C), while 54.4% (n=49) and 57.1% (n=36) of previously diagnosed clients had A1C reductions at 12 and 24 months, respectively. Other key indicators of health outcomes (low-density lipoprotein cholesterol, total cholesterol:high-density lipoprotein cholesterol ratio, systolic/diastolic blood pressure, body mass index, waist circumference and albumin: creatinine ratio) either showed statistically significant improvements or were maintained (non significant differences). The results also indicate benefits in terms of access to service. These findings, together with the fact that clients were either satisfied with or neutral toward group services, suggest that standardized group education sessions with an individualized assessment component can be an effective model of care for both newly and previously diagnosed clients.

KEYWORDS: access to service, ACR, blood pressure, BMI, client satisfaction, diabetes education, group, health outcomes, individual component, LDL, model, newly diagnosed, previously diagnosed, ratio, type 2 diabetes, waist circumference

RÉSUMÉ

Cette étude avait pour objet d'examiner les effets de la formation diabétique en groupe comportant un volet individualisé. Les variables évaluées étaient l'accès au service, certains indicateurs de la santé et la satisfaction des clients. Deux cent quarante-quatre clients atteints de diabète de type 2 (soit 60 chez qui le diabète venait d'être diagnostiqué et 184 chez qui le diabète avait déjà été diagnostiqué) ont été inscrits pendant la première année de cette étude de deux ans. Certains indicateurs de la santé ont été mesurés au départ ainsi que 12 et 24 mois après le début des séances de groupes. Des données ont aussi été recueillies pour évaluer l'accès et la satisfaction des clients. Après 12 mois, 90,9 % des clients chez qui le diabète venait d'être diagnostiqué (n = 20) avaient réduit leur taux d'hémoglobine glycosylée (HbA_{1C}), tandis qu'après 12 et 24 mois, respectivement 54,4 % (n = 49) et 57,1 % (n = 36) des clients chez qui le diabète avait déjà été diagnostiqué avaient réduit leur taux d'HbA_{1C}. Pour les autres principaux indicateurs des résultats sur le plan de la santé (cholestérol des lipoprotéines de basse densité, rapport cholestérol total:cholestérol des lipoprotéines de haute densité, tension systolo-diastolique, indice de masse corporelle, tour de taille et rapport albuminurie:créatininurie), il y avait soit des améliorations statistiquement significatives, soit aucun changement (différences non significatives). Les résultats ont aussi montré qu'il y avait des avantages pour ce qui est de l'accès au service. Ces constatations, ainsi que le fait que les clients se sont dits soit satisfaits, soit indifférents à l'égard des

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services de groupe, indiquent que les séances de formation en groupe normalisées comportant une évaluation individuelle peuvent être efficaces, que le diabète vienne d'être diagnostiqué ou ait déjà été diagnostiqué.

MOTS CLÉS : accès au service, diabète déjà diagnostiqué, diabète de diagnostic récent, diabète de type 2, formation diabétique, groupe, IMC, LDL, modèle, RAC, rapport, résultats sur le plan de la santé, satisfaction des clients, tension artérielle, tour de taille, volet individuel

INTRODUCTION

As the cost of, and demand for, diabetes services grow (1-3), diabetes programs need to be increasingly creative in order to provide quality services that can reach as many clients as possible, and in a timely manner. This is an especially pressing issue in rural areas, where there are significant problems with access to care and high diabetes prevalence rates (4,5). The literature suggests that group sessions may lead to cost savings, improved health outcomes, reduced wait times, increased participant satisfaction and enhanced peer support (6-11).

In an effort to enhance client access to care, staff at a part-time diabetes education centre (DEC) in a small rural community in northern Ontario decided to implement group-based education sessions with an individualized assessment component. Staff members were hoping to find an alternative to the standard 1-on-1 method of delivering diabetes education due to limited financial and human resources, as well as high diabetes prevalence rates, a situation that was resulting in problems accessing care and challenges with delivering appropriate education in a timely fashion. A 2-year study was carried out, targeting both newly diagnosed and previously diagnosed clients with type 2 diabetes, in order to address the following questions:

1. Would group-based education with an individualized component maintain or improve health outcomes over 2 years?
2. Would newly diagnosed clients show a greater improvement in health outcomes than previously diagnosed clients?
3. Would group-based education provide greater access to services?
4. Would clients be satisfied with group diabetes education?

METHODS

Participants

Adults aged 18 years or older with either a new or previous diagnosis of type 2 diabetes were recruited over 12 months from the DEC population. Exclusion criteria included conditions or situations requiring individual intervention (i.e. language, cognitive or physical limitations; pregnancy; or intensive insulin management).

Recruitment

Existing DEC clients were first informed of the change to group education through advertised information sessions and the local media. Subsequently, as clients (new and existing) visited the DEC, they were provided with information about the study and asked whether they would like to participate. They were assured that their care would in no way be affected by their decision. If they agreed, they were asked to sign a consent form.

Outcome measurements

Demographics

Demographic information was collected at baseline from newly and previously diagnosed clients. Baseline measurements for health outcomes and satisfaction were taken at recruitment, and follow-up measurements were conducted every 3 months for up to 2 years. Participants recruited at the end of the first year were followed for 1 year.

Health outcomes

The DEC physician referral form included client consent for the DEC to order laboratory work and to adjust diabetes medications. In addition, physicians were asked to send copies of recent laboratory work and a prescription for a blood glucose meter and supplies for each client they referred. The part-time program support staff person reviewed client charts and followed up on any missing laboratory work with either the medical clinic or the client. When laboratory work was received, the support staff person transcribed the information onto the Health Outcomes Data Collection Form, and any questionable values were queried by the individual doing the data entry. The DEC support staff person then double-checked the values and made any corrections.

The Canadian Diabetes Association (CDA) 2003 clinical practice guidelines were used to determine which tests should be included, as well as their frequency and targets (12). The chosen indicators were glycated hemoglobin (A1C); low-density lipoprotein cholesterol (LDL-C); total cholesterol (TC):high-density lipoprotein cholesterol (HDL-C) ratio; systolic and diastolic blood pressure; body mass index (BMI); waist circumference; and albumin:creatinine ratio (ACR).

Clinical data were collected and reviewed, anthropometric measurements were taken and clinical practice guideline targets were discussed during the individualized component of the group session. The registered nurse and registered dietitian were responsible for reviewing the client's medications and health status and transcribing the information onto the Client Diabetes Management Plan Form. Any outstanding laboratory work was ordered by either the registered nurse or registered dietitian as per a medical directive.