

Abstract

Title:

Diabetes control of patients registered and followed-up in diabetes care center at Augusta Victoria Hospital-Jerusalem

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Background:

Diabetes cases are rising rapidly around the world at an alarming pace. Diabetes prevalence is impacting individuals, families, and societies. In 2003, Augusta Victoria Hospital (AVH) implemented a model of care known as Diabetes Comprehensive Care Model (DCCM) which is effective in reducing diabetes complications and increasing patient/family involvement in diabetes care. The DCCM approach requires patients to play an active role in diabetes care and management. The team of professionals led by nurses addresses patients' necessary health care needs, which include improvement of communication, adoption of healthier lifestyles, screening and management of complications, enhancement of diabetes self-management education, standardization of

laboratory testing (HbA1c and MAU),
psychosocial care and home visits.

Aim:

This study aims to evaluate diabetes outcomes among patients managed under the DCCM in the Diabetes Care Center at Augusta Victoria Hospital (DCC-AVH) over a one-year period, by comparing initial measures of health with those after one year of follow-up.

Method:

500 type 2 diabetes patients newly registered and followed-up at the DCC-AVH in years 2011-2013 were reviewed in terms of diabetes outcome and complications. In the first visit, patient data was documented in the patient's medical file. The specialized diabetes team followed-up with patients for one year and documented all results in patients' files.

Diabetes care outcomes after one year were compared to those at the initial visit. Data was analyzed using SPSS version 21.

Results:

500 patients met the inclusion criteria. The mean duration of diabetes prior to the initial visit was 12 years (SD 6.83). The mean age of patients was 58.72 years (SD 9.26). Of the study population, 88.2% were married and 50.4% were females. 50.4% lived in the middle region of Palestine, and 63.2% had MOH health insurance.

On average, HbA1c decreased from 9.01% (SD 1.95) in the first visit to 8.29% (SD 1.65) in the last visit $p < 0.001$, while cholesterol decreased from 195.14 mg/dl (SD 43.5) to 183.45 mg/dl (SD 43.035) between the first and last visit, $p = 0.001$. There was a slight decrease in mean diastolic

BP from 79.03 mmHg (SD 11.75) in the first visit to 77.84 mmHg (SD 11.313) in the last visit $p=0.022$, while BMI increased from 31.8 (SD 5.19) in the first visit to 32.03 (SD 5.2) in the last visit $p=0.001$. 68% of the patients displayed an appreciable change in their HbA1c between the first and last visit. Diabetes control increased from 17.6% during the first visit to 25.2% during the last visit.

Multivariate analysis (MANOVA) shows significant results in the following independent factors: initial HbA1c, duration of diabetes, and type of insurance; Wilks Lambda=0.7971, $F(2,918)=13.77$, $p<0.001$, Wilks Lambda=0.9361, $F(4,1402)=1.91$, $p=0.0159$ and Wilks Lambda=0.9604, $F(2,918)=2.34$, $p=0.0170$ respectively.

Discussion:

Contrary to the current biomedical (physician-centered) model of diabetes care prevalent in the Palestinian health care system, DCCM at AVH could be an effective alternative for the provision of diabetes management and care. The DCCM provides community-based comprehensive diabetes care operated by a trained multidisciplinary team of professionals while engaging the local community health workers, health educators, and psychosocial staff who can jointly make a big difference in diabetes control, patient satisfaction, and prevention of long-term diabetes complications. Operating on a task shifting and rotating of nurses' roles and responsibilities as team leaders, case managers, and effective communicators, the DCCM can impact positively on the outcomes. By adoption and implementing unified diabetes protocols and management guidelines while applying unified medical records, the DCCM should prevent any duplication and can overcome the variations among different care providers. As a result,

there will be no fragmentation of the Health Care System, and this will avoid having a high rate of uncontrolled diabetes and its complications.

The diabetes care model should be focused and sensitive to the context of living of each individual patient and the communities they live in. The comprehensive concept of all aspects of care should be sensitively pursued and considered ranging from political, financial, social, cultural, religion, access, screening, abiding and implementing the unified diabetes protocols, records keeping etc. However, there is no single prescription for a proper diabetes care model; but each community needs to design its own model of care based on its available resources and what works best within its own context. Nevertheless, the DCCM needs further scientific and economic study before it can be recommended for a nationwide feasible implementation.

Acknowledgements:

We would like to thank the AVH diabetes team for their work and cooperation on this project.

Thanks extended to Science Training Encouraging Peace - Graduate Training Program for their support in part by fellowship grant to Ben-Gurion University for building the capacity of Ahmad in his study at BGU.

Professor Jørn Nerup is acknowledged for more than ten years of engagement in supporting and facilitating the establishment of the Diabetes Center at AVH.

The World Diabetes Foundation (WDF) has generously supported the diabetes clinic and the Mobile Diabetes team.

We extend thanks and appreciations to the Diabetes Palestine (DP) Association for the partnership and the support they provided to diabetes patients and the AVH mobile clinic.