

THE DIABETES KUWAIT RESOURCE CENTRE: DEVELOPMENT, IMPLEMENTATION, AND OFFERED SERVICES

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ABSTRACT

According to recent International Diabetes Federation (IDF) estimates, Kuwait is currently ranked number six in the prevalence of diabetes. Unfortunately, the public of Kuwait has limited access to the required education and support on diabetes and related disorders despite this very high prevalence. The Diabetes Kuwait Resource Centre, under the umbrella of the Dasman Diabetes Institute and support of the Kuwait Foundation for the Advancement of Sciences was established to provide information and support in regards to diabetes, its complications, and related conditions. The overall mission of the centre is to work on improving the lives of people affected by diabetes and increase overall awareness. This is achieved through the various services that are offered which include telephone medical consultations, interactive educational programs, community engagement, educational publications, and an online and social media presence. Offering these services required building an infrastructure for the Centre, which includes its mission and objectives, underlying technology, staff, and standard operating policies and procedures. This report describes the development, implementation, and offered services of the Centre.

Keywords: Diabetes, awareness, education

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BACKGROUND

Diabetes is a non-communicable disease that is considered to be a major global cause of mortality and morbidity^{1,2}. According to the latest estimates from the IDF in 2012, diabetes is the cause of around five million deaths in the world in patients that are 20 to 79 years of age. Furthermore, the global prevalence of diabetes and number of people with undiagnosed diabetes reaches almost 400 and 200 thousand people, respectively^{2,3}. The IDF reported that in the State of Kuwait, diabetes caused a total of approximately 400 deaths, with a prevalence of around 1,000 people in 2012. In comparison with other nations, the prevalence estimate of diabetes in Kuwait is 23.9%. This globally ranks Kuwait as number six in diabetes prevalence estimates amongst other nations³.

Patient education is an essential component in diabetes care as it helps patients adopt necessary lifestyle changes⁴. The main objective of patient

education is to modify the behavior so that the patient can manage the disease successfully⁵. It has been reported that education in any form, such as publications and educational programs, improves adherence and health outcomes⁶. It is important to consider that 80% of information communicated to patients by doctors is forgotten once they leave the clinic, and 50% of what is remembered is recalled incorrectly⁴. Therefore, providing education and support through a multidisciplinary healthcare team including a physician, nurse, pharmacist, and nutritionist is considered the cornerstone of effective diabetes care.

RATIONALE FOR SERVICE

There is a huge burden of diabetes in the State of Kuwait with an inadequate number of trained diabetes educators and nutritionists to provide the necessary education and support in order to empower patients⁷. Moreover, there is a lack of standardized educational programs and a multidisciplinary team approach to the management of the disease in the country⁸. It is also reported that education is best delivered on a one-to-one basis. Considering this, hospitals and most outpatient clinics do not have sufficient available facilities and staff to deliver the education⁷. Therefore, the presence of the Diabetes Kuwait Resource Centre can fulfill an unmet need and provide wider access for people to receive the

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necessary education and support no matter their geographic region.

MISSION, OBJECTIVES, AND SERVICES

The Diabetes Kuwait Resource Centre is an educational resource that is staffed with qualified healthcare providers, assigning the role of a Medical Information Specialist (MIS). Candidates who have an educational background in pharmacy, nursing, or nutrition and experience in diabetes care are qualified for the MIS position. The mission of the centre is to provide information and support in regards to diabetes, its complications, and any related conditions for individuals with diabetes, family members, and public. Thus ultimately improving the lives of people affected by diabetes and increasing overall awareness towards the disease. The pre-defined objectives of the centre include the following:

- Improve knowledge and increase awareness about diabetes and related conditions thereby improving health outcomes and health literacy.
- Prevent medical crises through the provision of appropriate education and information
- Provide access to educational resources and publications
- Leverage technology to reduce costs and improve quality of care in the healthcare setting.
- Integrate within the health care infrastructure as an educational resource for patients, families, and public.
- Contribute to the good health and well-being of the people of Kuwait.

The mission statement and objectives were developed and consolidated early on during the birth of the centre so as to guide the launch of various services and programs that are offered to the community.

The centre provides education and support through a variety of services which include one-on-one telephone consultations, response to medical inquiries through various media, interactive educational programs, educational publications, an online and social media presence, and community outreach programs.

OPERATIONS AND RESOURCES

Underlying Technology

Planning to launch the centre involves the development of the back-end technology that provides the ability to document and track cases, store

a knowledge-base of frequently asked questions, appropriately route phone calls, and allows for the generation and retrieval of various summaries and reports.

A local company was selected to develop a customized Client Relationship Management system (CRM) using the Microsoft Dynamics CRM 2011 software. The system is designed in a manner that facilitates the documentation and resolution of cases and the creation and update of client profiles. The system also stores a knowledge base of frequently asked questions on various diabetes-related subjects that was created by the team, and is constantly updated, and expanded upon. Reports can be generated on the types of cases, client-based information, and on any other field that has been created in the system such as age, gender, type of diabetes, and others.

In addition to the CRM system, a dedicated phone line for the centre has been assigned with the support of a customized Interactive Voice Response (IVR) system. The IVR system is developed in a manner to support a potentially high call volume as the centre grows with specifications for both inbound and outbound call flow. The system includes the ability to generate historical reports on calls received, abandoned calls, service level, and other parameters that help improve the end-user experience. The phone conversations are also recorded to ensure the highest quality and customer satisfaction.

Standard Operating Procedures and Policies

A set of policies and procedures were developed in order to streamline processes and ensure that the centre operates at the highest level of efficiency whilst minimizing risk. Policies were developed around the topics of handling out-of-scope calls, phone coverage, patient information, security privacy and confidentiality, sharing of patient information with other departments, electronic dissemination of the monthly newsletter, and various others. A unique perspective on the development of the policies is that they are written by the team but guided and approved by the department director which ensures a sense of commitment, and that the policies are practical and ultimately adhered to.

Diabetes Kuwait Resource Centre Services

Telephone Medical Consultations

Telephone consultation is a methodology that has been proven to improve the management of patients with type 1 and type 2 diabetes.⁹ A review of

the medical literature found that there are different applications of hotlines for delivering clinical care scenarios.¹⁰ The review also found that diabetes help lines focused on topics of underlying illness, doubts about insulin dose, and hypoglycemia. The model that the centre's live telephone consultation service is built upon education and support. However, assisting patients in the adjustment of medications and insulin dose is outside the scope of the centre; nevertheless, appropriate education and referral is provided surrounding these topics. The live telephone service operates from 8 am to 5 pm on working days. The staff may refer cases to

nutritionists, diabetes educators, and/or physicians when necessary and as per agreed upon protocols. To ensure client satisfaction, the centre offers an opportunity for clients to submit their questions via various communication mechanisms including email, the website, Facebook, and voice mail. Table 1 provides an illustration of the types of questions received by the centre since its launch and Table 2 provides details around the number of Clients and Points of Contact profiles (PoC) in the system. A Client is designated as a patient and a PoC is an individual calling on behalf of a patient.

Table 1: Types of Cases Received**

August 1st 2011 to October 1st 2013

Type of Case	Description (according to sublevel categories)	Number
BECOMING A DASMAN PATIENT	Questions regarding how to enroll as a patient at the institute and open a file	37
COMPLICATIONS OF DIABETES	Hyperglycemia, Hypoglycemia, Prevention, Feet, Treatment, Kidney, Nerves	29
DASMAN HEALTH EDUCATION PROGRAMS		7
DIABETES AND CHILDREN	Type 1, management, insulin, other	13
DIABETES GENERAL/DIABETES DISEASE PROCESS	Risk factors/causes, types of diabetes, symptoms, diagnosis, tests/check-ups, diabetes prevention, misconceptions, other	42
LIVING WITH DIABETES	Fasting, school days, work, smoking, other	11
MISCELLANEOUS/OTHER	Diabetes-related questions and administrative questions that cannot be categorized	33
MONITORING	Blood glucose targets, blood glucose monitoring, monitoring supplies, ketone testing, other	18
NUTRITIONAL MANAGEMENT	Balanced diet, carbohydrate counting, losing weight, managing hypoglycemia, recipes, other	15
OUT OF SCOPE	Questions that the centre cannot respond to an not in alignment with the centre mission and objectives	16
PHYSICAL ACTIVITY	Exercise and insulin, types of exercise, healthy activity	4
PREGNANCY	Preconception care, gestational diabetes	2
RESOURCES	Questions regarding Diabetes resources available	5
TREATMENT	Insulin and insulin devices, non-insulin injectable diabetes medications, oral anti-diabetic agents, other medications, non-prescription medications/supplements, new research/treatments, injection, other	78
TOTAL CASES		310

***Phone line was made publically available January 2012 however wide-scale marketing was not conducted. Numbers exclude cases received that inquired about registration for educational workshops*

Table 2: Number of Client & Point of Contact Profiles

*August 1st 2011 to October 1st 2013**Client = patient profile**Point of Contact = someone calling on behalf of a patient*

Total number of Clients	162
Total number of Point of Contacts	68
Total	230

Interactive Educational Programs

The centre offers a number of interactive educational programs on various topics for patients. With the exception of two programs which were adapted and translated from two Joslin programs with approval, all other programs are internally developed. The programs are developed according to a standardized framework that governs planning, development, as well as continuous review and update of the content. A defined curriculum matrix is utilized in the development process which facilitates defining each program's objectives in addition to teaching and learning activities. Programs are developed in both the English and Arabic languages. Table 3 describes the programs delivered by the centre.

Table 3: Interactive Educational Programs

Program Name	Description
My Medications and My Life	A six-hour program designed to help positively affect the patients' beliefs and understanding about their diabetic treatment and medications and how it plays into their overall care; this also includes treatment for related diseases such as hypertension and dyslipidemia. This course includes teaching and a practical clinical skills session on insulin to teach patients about various insulin, and proper administration and technique.
Cholesterol: the Good, the Bad & the Healthy	A two-hour program designed to help people with diabetes and dyslipidemia learn how to improve their lipid levels and other cardiovascular risk factors through better food choices, physical activity, and medication.
Blood Pressure: Under Control	A two-hour program designed to help people with diabetes and high blood pressures understand how to control their blood pressure and other cardiovascular risk factors through better food choices, physical activity, and medication.
Diabetes and Your Eyes	A two-hour program designed to enhance awareness about diabetes-related eye problems and their risk factors, as well as provide strategies to prevent and manage these problems.
Diabetes and Your Feet	A two-hour program designed to enhance awareness about diabetes-related foot problems and their risk factors, as well as provide strategies to prevent and manage these problems.
Diabetes and the Hajj	A two-hour program designed to enhance awareness about concerns regarding diabetes, Hajj (Islamic pilgrimage), and traveling and how to appropriately manage these concerns.
Diabetes and Ramadan	A three-hour program designed to enhance awareness in regards to issues related to fasting in Ramadan and diabetes. It also includes a healthy cooking workshop and is conducted in collaboration with the institute's nutrition department.

Educational Publications

Various educational publications have been developed, including a monthly newsletter with a different theme every month, a Diabetes Self-Care booklet for adult and pediatric patients with diabetes, and a "Stop Diabetes" booklet with an overall aim of increasing awareness about diabetes and prevention strategies.

Several flyers have also been developed on topics such as nocturnal enuresis, the "Ask Card" which summarizes questions that people should ask about their medications, a parents' guide on safe use of medications for children, a guide for safe traveling with diabetes, among various others. The development and distribution of educational publications remains to be an important component of the resource centre's ongoing activities.

Online and Social Media Presence

Considering that a huge number of the population is online and active on various social media portals, the resource centre developed an educational and resourceful website that is customized to fit the local needs. The Diabetes Kuwait website (www.diabetes.org.kw) includes information about the centre, articles on diabetes and related disorders, a field to submit medical questions online, current events, archives of the monthly newsletter, as well as a field to subscribe to the newsletter and event updates. A separate section, dedicated for resources that are geared towards healthcare providers, is also incorporated. The website is available in both the English and Arabic language.

The centre also created a following page on Facebook reaching approximately 2,000 followers to date (March 2014) and available at www.facebook.com/Diabeteskuwait. Daily health tips and interactive questions are posted regular in both the English and Arabic languages to engage with the online community.

Community Outreach Programs

Several outreach campaigns are conducted every year on various topics related to diabetes. Examples of outreach programs that have been previously conducted include "Step up Your Life", "Ask About Your Medications", "Diabetic Ketoacidosis Prevention Campaign", and "Ask About Your Medications during Hajj (Islamic pilgrimage)". The objectives of these outreach campaigns are to raise community awareness on diabetes and the prevention of Diabetes-related complications, open

effective communication channels between the public and healthcare providers, and conduct various health screenings. At each campaign, the centre offers health education consultations, educational publications, and screenings on blood glucose, lipids, and others. Previous completed questionnaires by attendees indicate a high overall satisfaction rate in the areas of the campaign itself, professionalism, and usefulness rating at least 95% or higher.

Community Partnership Program

The Resource Centre is committed to partnering with primary health care polyclinics in the State of Kuwait. The Community Partnership Program allows polyclinics to have access and priority to register their patients in ongoing educational workshops, and receive pre-specified quantities of the monthly newsletter, brochures, and educational material. The Resource Centre requires each community partner to place a roll-up poster advertisement board and a stand displaying the educational material and brochures in their waiting areas. This type of partnership allows the centre to be marketed in a more targeted fashion and to integrate better into the healthcare infrastructure in Kuwait.

CONCLUSION

Although the centre was only launched recently in the last couple of years, the services offered provide the public of Kuwait an educational and support resource not otherwise available. The centre is also taking steps to engage better with the community in order to increase awareness and widen its reach. Efforts to expand upon the services and to integrate within the health care infrastructure as an educational resource for patients, families, and public and will continue to evolve in order to meet the growing population needs.

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