



AN OVERVIEW OF PERSON-CENTERED DIABETES EDUCATION DELIVERY AMONG PATIENTS AND PARAMEDICS OF SILIGURI

Diabetology

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ABSTRACT

People with diabetes depend largely on themselves to implement their disease therapy. Therefore, self-treatment behavior is a critical component of diabetes management. Diabetes education improves their lifestyle, dietary choices, and exercise routine which dictates the disease prognosis. However, the disease management must be individualized for optimal outcomes. In this article, we describe the means of facilitating tailored treatment by delivering diabetes education at the local level in a tier 2 city in West Bengal, Siliguri. We elucidate how we currently manage a varied patient group. We also make an effort to educate the paramedics who are the very first healthcare professionals to interact with the patients. From my clinical experience, I believe that we evolve as Physicians every day, meeting the patient's needs and individualizing treatment with our technical expertise and empathy.

KEYWORDS

person-centered, individualized approach, Diabetes self-management education

INTRODUCTION

People with diabetes have to execute the primary disease therapy; especially lifestyle facets in their daily life by themselves. Therefore, their self-treatment behavior is a key factor affecting their diabetes prognosis¹. This requires personalized care i.e., working together with an individual to plan their care and support to meet their unique needs. Patient-centric ensures that patient preferences are taken into account when formulating the management of the disease state.² Involving the patient is of critical importance since diabetes is a chronic disease that necessitates life-long self-management.³ Appropriate self-management of the disease will help enhance disease control. Individuals with diabetes, with appropriate disease education, may be able to make proper choices in terms of overall lifestyle, particularly dietary habits and exercise which play a central role in diabetes management.¹ Thus, individualized care with patient participation improves their quality of life and well-being by giving them the choices and thus controlling their disease state. A patient-centric approach improves the individuals' quality of life and clinical outcomes according to the patients' needs.^{4,5,6,7,8}

The American Diabetes Association and EASD recognize the need to align diabetes treatment with patient goals.^{9,10} Therefore, these guidelines recommend flexible treatment goals by identifying the burden of treatment as the primary ground.¹¹ To get involved in self-management, people with diabetes need sufficient diabetes knowledge which may improve their confidence. Further motivation is important to maintain the behavior even when circumstances are not favorable.¹²

Understanding the patients' behavior is essential since it affects the clinical outcomes.¹³ Thus, the management of diabetes is complex and a tedious process that necessitates clear communication between the patient and healthcare provider. Mutual understanding between patient and healthcare provider will facilitate concerted goal setting.

Health Needs Assessment of Local Area and Population

I practice in Siliguri, a tier 2 city that spans areas of the Darjeeling and Jalpaiguri districts in the Indian state of West Bengal. Known as the 'Gateway of Northeast India'. The population density is 11,000/km² with a sex ratio of 1000/951 and a literacy rate of 85.46%. It is a trading and transportation hub. There are nearly 185 slums in Siliguri inhabited by 32% of its population. Bengali is the predominant language followed by Hindi, Nepali, Bhojpuri, and Urdu.

There are several healthcare facilities including primary and community centers in the periphery. There is also a District Hospital along with Medical College and Hospital for referral cases. A large number of clinics, nursing homes (around 40 in number), multi-specialty and super-specialty hospitals form the private set-up. Besides, the Indian Red Cross Society, St. John's Ambulance Association, and several welfare organizations run charitable clinics

and hospitals. A cross-sectional study performed in Siliguri found the prevalence of diabetes to be 9.1% in Siliguri.¹⁴

Person-centered Diabetes Education Delivery Diabetes education is one of the basics of successful diabetes management. Several methods have been opted to make diabetes education available to the masses, one of the most prevalent being internet-based education. Several studies have affirmed that Diabetes self-management education (DSME) communicated is effective at enhancing diabetes knowledge compared with usual care. Besides, studies have shown that it resulted in improved eating habits and increased follow-up visits at clinic appointments following DSME. Consequently, glycemic control demonstrated improvement. Greater improvement in HbA1C compared with usual written DSME materials (-1.53% vs -0.49% in control; $p = 0.031$) was noted.¹⁵ Lorig et al found that patients with higher HbA1C at the beginning of the study seemed to benefit most from intervention.¹⁶ Some studies also demonstrated improvements in exercise behaviors and self-care behaviors after receiving DSME.¹⁷ In a majority of studies that analysed participant engagement with the education interventions, greater participant usage of education materials resulted in improved knowledge and/or glycemic control.¹⁵ Therefore, compared with usual care, DSME improved glycemic status, patient activation, and self-efficacy; thus, achieving short and long-term goals.

Having practiced for the past two decades, I have personally evolved as a physician. Based on the valuable lessons during my clinical practice, I have strived to improvise diabetes education delivery. In this article, I have elaborated on a few such methods we practice at different levels.

Person-centered Diabetes Education Delivery to Patient in-clinic

When an individual approaches our clinic for consultation, we obtain the details about his food, lifestyle, occupation, and pre-existing disease conditions. Regarding dietary habits generally, we insist on a 3-day or a minimum 24-hour recall. We also encourage the person to divulge information on any kind of addiction which is widely prevalent in Siliguri. These data are obtained in a non-critical manner. If there is an affirmation on substance abuse, counselors and/or psychiatrist intervention is obtained. Thus, apart from clinical status, we derive the social and economic background of the patient which influences the management of diabetes.

After investigations confirm the diagnosis of diabetes for a particular patient, based on comorbidities (hypertension, dyslipidemia, or renal dysfunction) and anthropometric measurements we suggest dietary modifications and exercises. The patient is briefed on the importance of achieving glycemic targets and if necessary, regarding weight reduction.

For newly detected persons with diabetes, who may develop the anxiety of being transformed from a person to a patient, reassurance is

offered to calm the individual. We reassure him in a very understanding manner to lower his anxiety and build confidence.

For persons with a previous diagnosis, we usually follow the questionnaire formed by Funnell et al. We aim to find the impact of diabetes on their daily life.¹⁸ We also make an effort to determine the difficulties the patients with diabetes face, so that we can aptly help the patient.

The available pharmacological treatment alternatives are explained to the patient highlighting the advantages and disadvantages while avoiding medical jargon. Depending on the target HbA1C, functional status of the individual, and preference, the optimal pharmacological treatment is chosen. It is indeed shared decision-making and involves the active participation of the patient.

Bearing in mind the festive seasons and associated fasting and feasting periods, a person with diabetes is provided with necessary dietary modifications along with changes in the dose and frequency of medications in local languages.

Lastly, apart from clinical expertise, we believe that showing empathy towards the individual is important. We believe and ensure that a person with diabetes empowered with knowledge can efficiently self-manage his diabetes.

Person-centered Diabetes Education Delivery for Nurses and Paramedics at Hospital

Nurses and paramedics play an important role in the management of any disease in a hospital. To completely equip them with diabetes information we conducted a diabetes education workshop with four sessions. The first part of the session explained the significance of diet and lifestyle in people with diabetes and other associated chronic disease states. Charts on the available local and seasonal foods with their glycemic indices were used for explanation. Along with dietary factors, the significance of exercise was underscored. The various types of exercises including Yoga, aerobic exercises, weight training were explained. Their benefits in terms of calories burnt, weight loss, cardiorespiratory benefits, and muscle gain were also elaborated.

A short video obtained from local Police authorities regarding addictions prevailing in the locality and the support systems available to tackle them was projected. The role of counselors and social welfare organizations in managing this subgroup of patients was stressed.

The second session detailed the types of insulin pens available along with their technique of use. The session also explained the types of insulin based on posology. The risks associated with insulin therapy were highlighted along with awareness of red flags. The next session focused on the newer antidiabetic agents the SGLT2 inhibitors and GLP-1 analogs. The dosage, time of administration especially concerning the meal, side effects, and adverse effects were discussed. The glycemic targets of blood glucose control across different ages with and without comorbidities were elaborated. Cases-studies from clinical practice were used to debate upon the optimal management to evaluate the understanding of the participants.

Person-centered Diabetes Education Delivery for Elderly at Old Age Home

I conducted a session for the elderly who were forsaken by their families and left at a charitable old age home on the outskirts of Siliguri. The majority of elderly demonstrated typical geriatric syndrome. Most were short of hearing. We used visual displays and videos to help them understand self-care, especially regarding dietary habits. Appropriate diet charts along with basic dietary principles were provided by the dietitian to the authorities with advice on tweaking it based on circumstances and availability of resources.

The various causes and effects of syncope and fall especially in hypoglycemia were demonstrated through simulation techniques. The symptoms of hypoglycemia were delved into in detail. The prevention and management of hypoglycemia especially at night or when alone was discussed. Knowledge was imparted on when and how to seek help. A list of emergency telephone numbers was provided to the authorities.

The significance of periodic monitoring of glycemic status was emphasized. The elderly persons with diabetes were provided with a glucometer and a demonstration was provided for its use. The benefits

of regular aerobic exercises and yoga, and the necessity to perform daily activities were advocated. Based on their functional status, yoga asanas/postures were demonstrated by our physiotherapist for all the inmates.

Elderly persons often suffer from psychological stress, primarily depression and anxiety due to the circumstances. After determining the need in a few, counselling therapy was provided and more sessions were conducted in the subsequent weeks.

CONCLUSION

As a physician, I have learned a lot from my patients. I was able to perceive things from the patients' perspective which was often at variance from mine. This has and will continue to facilitate person-centric disease management now and in years to come. Moreover, we cannot underestimate the role of the nursing staff who are generally the first point of contact for people. Therefore, educating them is important in providing good patient care and promoting self-care management. The various sessions I conducted have reaffirmed my belief in 'learning by doing' perhaps as the best way to conceptualize things and obliterate doubts that may remain with other forms of learning.

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