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Review Article

Diabetes Mellitus and the Power of Speech

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Abstract

Diabetes mellitus is both a metabolic and nutritional chronic non transmissible disease. After insulin was discovered in 1922, many scientific and technologic discoveries have generated innovations shown to control de disease and prevent its complications. But despite these scientific advances, uncontrolled diabetes is still a major cause of chronic complications and death worldwide.

As most diseases, diabetes mellitus can be explained through natural history, which implies inevitable complications and suffering and through a sociocultural history, in which diabetes is transmitted via social communication and inherited in family habits, feelings and paradigms.

Currently, the major connotations of de sociocultural history of diabetes reflect the lack of control of the disease. The negative feelings of discrimination and handicap are reflected in the stereotype "diabetic patient".

We postulate that a change in the sociocultural history of diabetes will allow societies to apply scientific knowledge and change the way people with diabetes are treated and the results of the therapies. Stereotypes may change, through voluntary and conscious decisions. The first step to change the sociocultural history of diabetes is to stop the discrimination and handicap implied in the stereotypes that surround the disease and set a new paradigm of respect, participation and empowerment for people with diabetes.

Keywords: *Diabetic Patient or Person with Diabetes; Diabetes and Discrimination; Diabetes and Paternalism; Diabetes and Co-Responsibility; Social Communication, Disabilities, Diabetes*

Diabetes, a paradigm of chronic diseases

Diabetes mellitus is the paradigm of chronic non transmissible diseases because despite all the technologic and scientific discoveries surrounding it, there is no correlation between those advances and reality since the disease has not been fully controlled yet [1]. Preventing complications of chronic diseases will reduce economic, social, familial, and emotional costs. Yet, the local healthcare system favors a physician-centered and curative focus, which has failed to control the disease.

There is a dichotomy between the natural history and the sociocultural history of diabetes. This difference may explain the reasons why it has been impossible to use scientific knowledge to change the clinical situation of diabetes. This article will analyze the traditional medical-based paradigm of diabetes, and then the sociocultural paradigm to explain a cornerstone issue which undoubtedly prevents communities and societies from achieving the desired targets in diabetes control.

Diabetes mellitus: The disease-centered view

Diabetes mellitus is a chronic non transmissible disease, caused by a partial or total deficiency in the production or utilization of insulin. Insulin is a hormone produced by the pancreas. It allows glucose, derived from dietary carbohydrates, to enter the cells and be used as a source of energy. When there is not enough insulin, glucose cannot enter the cells and accumulates in the blood, causing hyperglycemia, which is the main characteristic of diabetes [2].

The two main types of diabetes are type 1 diabetes, in which there is a total deficiency of insulin production and the person needs to receive exogenous insulin to control the disease¸ and type 2 diabetes in which there is a deficiency in insulin production associated with insulin resistance in peripheral tissues. Type 2 diabetes is associated with traditional risk factors, such as overweight, obesity and sedentarism [2].

Insulin produced by the pancreas is liberated to the circulation in two main ways: there is a basal insulin production along the day, to keep glucose levels in normal levels in the fasting state. Insulin is also liberated during food intake when the pancreas senses the increase of glycemia. Insulin activates specific cell transporters that take the glucose molecules inside the cells to produce energy. Organs that depend on insulin for glucose uptake are skeletal muscle and adipose tissue. The liver also responds to insulin action, helping to regulate glycemia in the fasting and fed states [3].

Scientific discoveries in diabetes management

Insulin was discovered in 1922. Before this, most people with type 1 diabetes died because of lack of insulin. Initially it was extracted from the pancreas of animals, but soon scientific discoveries allowed its biochemical isolation. Ovine insulin was the first protein to be synthetized in a laboratory in 1963.

Between 1979 and 1982 recombinant technology was used to synthetize human insulin, that is, a molecule exactly alike the one produced by humas. Insulin related discoveries have won at least five Nobel prizes [4]. Currently there are several formulations of insulin, with the same mechanism of action but different profiles in duration and time of action. Both insulin injection techniques and blood glucose monitoring devices have improved significantly over the almost 100 years since its discovery.

During the decade of 1990, two scientific studies demonstrated beyond doubt that the cause of diabetes complications is hyperglycemia, not the administration of insulin, as is the popular belief. This implies that the best measure to prevent diabetes complications is to achieve a good glycemic control. A1c glycated hemoglobin is the gold standard for follow-up in glycemic control and for evaluating the risk of complications [5,6] (United Kingdom Prospective Diabetes Study Group).

Despite these important advances, today insulin is one of the medications more frequently related to preventable adverse effects [7] and to outdated myths and beliefs [8]. Even with the demonstrated efficacy of insulin in achieving glycemic control, ignorance of updated scientific information, outdated beliefs and scarce education about insulin and its administration contribute to the lack of adequate disease control [9].

Traditional treatment focus

Traditional treatment is centered in the physician's prescription. Allopathic medicine is the most used healthcare model in the western hemisphere. It is based in the principle of opposites: since glycemia is elevated, medication is intended to lower it. Even the non-insulin medications act to improve the liberation or use of endogenous insulin to achieve glycemic control [2].

People with diabetes must change their lifestyle, monitor their glycemia and program regular preventive checkups. In most cases, they need to take medications. All these actions make diabetes control a 24/7 job. Nevertheless, the traditional allopathic therapeutic system does not take psychosocial issues into account to improve diabetes control. In this traditional treatment scheme, the person has a low capacity for decision making, since he or she is called to obey physician´s orders. If they don´t achieve glycemic control, which is usual, they are blamed non-compliant with treatment.

Non transmissible disease transmission

Chronic non-transmissible diseases are not transmitted in the same way as infectious diseases. But many components of diabetes may be socially transmitted or even inherited in family generations.

For example, nutrition and lifestyles are a key element for diabetes control, because diabetes is an alteration in carbohydrate metabolism. All carbohydrates, both sweet and salty, including fruits and vegetables, are converted to glucose (sugar) to be used in the body. So, food intake habits and preferences, portion sizes, the level of physical activity, all are cultural elements learnt at home, which will influence diabetes control. The false belief that fats must be avoided in a healthy diet has been socially transmitted for over 50 years. Because of this belief, a large percentage of Latin American people follow a low fat, high fruit, and vegetable-rich diet, disregarding the fact that carbohydrates, and not fat intake is the main cause of hyperglycemia in diabetes.

Socially transmitted elements include fear, disease denial, denial to seek treatment, information or help, anger, or even hanging on to outdated beliefs. Feelings of hopelessness, distress, guilt, or helplessness can also be transmitted in societies and families.

Fear, anxiety, and guilt are the most frequent emotions related to chronic diseases like diabetes. When used by a health professional, anger intends to make the person feel guilty about diabetes or their control [10]. On the other hand, when a person with diabetes has complications that limit their physical movement, this can cause anger as well [11].

Lastly, biases are transmitted socially and in families in an implicit fashion. They translate into attitudes of discrimination in school, work, or society. Biases are generated by outdated beliefs or fears. For example, it is false than people with diabetes have worse performance at school or at work. Biases translate in beliefs that state people with diabetes have no will of power to control de disease or that they are handicapped [12]. These biases express themselves in a stereotype: “the diabetic patient”.

The “diabetic patient”

The expression “diabetic patient” combines two expressions of bias, mostly involuntary, against people with diabetes. Both terms are a source of limitations, even more so than diabetes itself, since diabetes, when it is properly controlled, is not associated with complications or handicaps.

The term “diabetic” is so popular and has been used for such a long time, that most people take it for granted that it is of normal use. Health professionals rarely analyze what is the meaning of the expression, although they intend no insult when they use it. This is just the way society and the health system has taught people to talk about diabetes.

The biases surrounding these terms conform a paradigm, that a “diabetic patient” is a fat, lazy, non-compliant person, unable to follow directions, overeater, liar or even a person who wants to harm herself. Being a “diabetic” implies that diabetes is a part of the person’s personality, thus her destiny is fixed. The person cannot take actions to control the disease or prevent complications and lives surrounded by remorse, guilt, and suffering.

The power of speech

Words and speech have power: they can either liberate or oppress, limit, or allow individual’s actions. It is important for healthcare professionals to be aware of the power of their words since science is surrounded by beliefs [13]. When our words are based on personal beliefs, instead being based on scientific facts, they will have a negative and counterproductive effect.

According to the American Psychological Association, expressions that imply a person as an individual is totally disabled (handicapped, patient), expressions that imply the person is equivalent to the disease (diabetic, hypertense, obese); expressions with negative

implications, or that might be considered slander, all of them must be avoided, since they ignore the person's capacities or rights to express their goals and preferences and to contribute to society. Terms related to disability have changed and will continue changing. The goal of changing language is to ensure it is free of bias and refers to people with disabilities - and in our case to people with diabetes- in an inclusive and respectful way [14].

Change in speech related to diabetes

Contrary to the implications of the term "diabetic", well controlled diabetes does not cause complications or disability. Even when there is a percentage of diabetes cases that are not preventable, diabetes is a controllable disease. The complications of diabetes are due to poor glycemic control, and as such, they can be prevented. And even if there are complications of diabetes, in most cases it is possible to minimize their impact in the person's quality of life.

Another implication of the term "diabetic patient" stereotype is that people cannot participate in their own control. Evidence shows people with diabetes do not want to have complications of diabetes. They want and can participate in their control [15].

There is a social movement directed toward changing language in social communication to stop discrimination in general, and it is also going on in diabetes care (American Psychological Association) (International Diabetes Federation) (National Center on Disability and Journalism) (Mcdonald y Campbell) [16-18].

A personal conscious decision to change language is key to stop using these common and socially accepted terms, that impact diabetes control in a negative way. The first step is to change the viewpoint about diabetes. When biases are out of the scene, and communication is based on scientific information, the terms used to address people with diabetes will also change.

Conclusion

Diabetes mellitus is an endocrine, metabolic, nutritional and chronic non transmissible disease. Its natural history heads towards a fatidic fate of poor metabolic control and chronic complications. But its sociocultural history and the way it is transmitted socially and inherited in family life may be changed, so that scientific advances can be applied to control the disease, avoid complications, and change the end results for people with diabetes.

Traditionally, diabetes is seen through its negative connotations, but this stereotype is not necessarily true, and it may change.

A different view of diabetes starts when referring to people with the disease without the biases in common expressions, such as "diabetic patient".

When you take away the negative implications of the terms used in social communication, you will minimize or cancel feelings like anger, guilt, and fear. When the person can participate in their own control, there is a new landscape for disease control. It allows people with diabetes to be the center of their healthcare, to take informed decisions and to change the negative perspectives related to being a "diabetic". This change goes far beyond the words. It implies a need for reflection and change in the social consciousness that is a must for diabetes control achievement.

Conflict of Interest

The author declares no conflict of interest.

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