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Challenges in the Admission of a Person with Diabetes

Diabetes mellitus (DM) is one of the most common chronic diseases worldwide, with a prevalence of 9%, a number that is expected to increase in the coming years. In Spain, although prevalence reaches 14%, only 6 out of 10 people with DM are aware that they have the disease.

Hospital admissions for people with diabetes mellitus (DM) are frequent. Up to 25% of patients with T1DM are hospitalized over the course of a year, a figure that reaches 30% in T2DM. Poor glycemic control is a risk factor for hospitalization, as the higher the HbA1c, the greater the likelihood that patients will suffer from a condition requiring admission. Studies highlight that up to 38% of “non-critical” patients admitted have DM, with a diagnosis of DM made for the first time in one-third of them during that admission.

During hospitalization, poor glycemic control is associated with higher mortality, greater morbidity, and higher healthcare costs due to more frequent and prolonged hospitalizations, a higher rate of admissions to intensive care units, and poorer outcomes after discharge.

Therefore, adequate glycemic control during hospitalization translates into benefits both in the short term, as it reduces morbidity-mortality and costs, and in the long term, as it improves readmission rates and outcomes after hospital discharge.

CHALLENGES OF GLYCEMIC CONTROL

There is sufficient scientific evidence demonstrating that proper management of DM by teams of professionals trained in this disease improves glycemic control during hospitalization and reduces length of stay. However, this task is not always easy, as many factors during hospitalization hinder achieving adequate control, such as nutritional and clinical instability, underlying disease, stress-induced hyperglycemia, the administration of artificial nutrition, or the use of hyperglycemic drugs such as corticosteroids. In addition to the instability of glycemic control due to these factors, we can highlight the following main challenges for the proper management of DM during hospitalization:

1. Lack of standardized insulin protocols in the hospital

The first challenge we face is the absence and implementation of universally accepted protocols during admission that include various insulin administration guidelines adapted to all circumstances and clinical situations encountered during hospitaliza-

tion. For example, for “critical” or “non-critical” patients, for acute decompensations of the disease (isolated hyperglycemia, diabetic ketoacidosis, hyperosmolar decompensation, etc.), or for special situations such as pregnancy, artificial nutrition (enteral or parenteral), or the use of corticosteroids.

Initiatives from working groups for DM from scientific societies, such as the Andalusian Society of Endocrinology, Diabetes and Nutrition (SAEDyN), address this challenge and have been successfully implemented. In the practical manual of this society, protocols for managing DM according to the causes of admission and the patient’s clinical situation are included.

2. The use of non-insulin therapies

Traditionally, insulin has been the treatment of choice for DM during hospital admission, as the use of classic non-insulin therapies is limited, either due to potential adverse effects or because they do not allow the quick adjustments or corrections needed in this setting. The emergence of drugs such as SGLT2 inhibitors (iSGLT2) and GLP-1 agonists with demonstrated cardiovascular benefits and their new indications (heart failure and chronic kidney disease) have led to considerable improvements in the comprehensive management of the disease and a new scenario regarding the indication of these drug groups during admission.

In this regard, the Spanish Society of Endocrinology and Nutrition (SEEN) has established a series of recommendations on when to maintain and when to stop their use. Situations such as hepatic insufficiency, acute renal failure, catabolic states, upcoming surgery, or intolerance to oral intake contraindicate their use. Additionally, it is recommended that GLP-1 agonists should not be used in cases of digestive symptoms and that SGLT2 inhibitors be suspended in cases of predominance of anaerobic metabolism, active genital or perineal infections.

Although the evidence regarding their use during admission is still limited, GLP-1 agonists could be indicated in patients with a BMI > 30 kg/m² (obesity) in the absence of contraindications, and SGLT2 inhibitors in certain clinical situations such as heart failure or ischemic heart disease. »

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BEFORE DISCHARGE, PATIENTS OR THEIR CAREGIVERS MUST HAVE RECEIVED ESSENTIAL INFORMATION REGARDING MEDICATION, SELF-MONITORING, AND THE MANAGEMENT OF HYPOGLYCEMIA. UNFORTUNATELY, ON MANY OCCASIONS, THE HIGH NUMBER OF ADMISSIONS AND THE LIMITED RESOURCES OF NURSING STAFF MAKE IT DIFFICULT TO PROVIDE THIS SURVIVAL EDUCATION



» 3. Glucose monitoring during hospitalization

Funding for glucose monitoring in patients treated with insulin on a basal-bolus regimen (multiple daily doses of insulin) has led to the implementation of this technology for people with DM and thus to the presence of its users when they are admitted to a hospital.

Although its use was not yet standardized, during the coronavirus pandemic, many hospitals utilized interstitial glucose monitoring to minimize the time of exposure for healthcare personnel and reduce the protective material used in caring for patients. Subsequently, numerous studies highlighting the benefits of this technology in hospitalized patients have been published, including:

- Greater satisfaction among people with DM.
- Easier detection of hypoglycemia, especially nocturnal, prolonged, or asymptomatic ones.
- Reduction in the time and cost invested in managing DM.

In this regard, the working group on technologies of the Spanish Diabetes Society (SED) has produced a document that outlines recommendations for the management of technology applied to patients with DM during hospitalization, the available evidence, and recommendations regarding glucose monitoring in this context (<https://www.sediabetes.org/publicaciones/publicaciones-sed/documento-de-manejo-de-la-tecnologia-aplicada-a-la-diabetes-en-el-paciente-hospitalizado/>).



» We could conclude regarding this challenge that, after the hospital admission of a glucose monitoring user, we should maintain monitoring if there is a higher risk of hypoglycemia and their clinical condition permits it. Additionally, it is necessary to ensure that the staff responsible for patient care has the essential basic training to understand the information provided by these systems.

4. Therapeutic Education during hospitalization

One of the most challenging situations for hospitalized patients with DM is planning treatment upon discharge. Especially concerning is the lack of foresight regarding new needs that the patient may have related to the treatment that will be initiated,

particularly in cases where insulin is needed when it was not used before admission.

Before discharge, patients or their caregivers must have received essential information regarding medication, self-monitoring, and the management of hypoglycemia. Unfortunately, in many cases, the high number of admissions and limited resources of nursing staff make it difficult to provide this survival education.

Aware of these limitations in availability, time, and training, SAEDyN has developed an easily accessible basic educational survival guide for people with DM to support the advice given by health care professionals (<https://guiapacientes.saedyn.es/guia.html>). **D**

CONCLUSIONS

Despite the multiple situations that hinder good glycemic control during hospitalization and the ability to respond to the highlighted challenges, a hospital admission can be a wonderful opportunity to improve control and quality of life for people with DM.

**SURVIVAL GUIDE
FOR PEOPLE WITH DIABETES AND THEIR CAREGIVERS**

**SURVIVAL GUIDE
FOR PEOPLE WITH DIABETES
AND THEIR CAREGIVERS**

Scan or capture this QR Code with your smartphone or tablet and always have this Guide at your fingertips on your mobile device

Project developed by
saedyn
Grupo de Diabetes

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