

Self-monitoring of blood glucose is still a pivotal part in the management of type 2 diabetes

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Self-monitoring of blood glucose (SMBG) has really come of age. From the early, crude and time consuming methods of doing SMBG, it has evolved slowly but steadily. Today, we have 'state of the art' SMBG systems which can be connected digitally to various apps making it much more user friendly, both for the Health Care Professionals (HCPs) and for People with Diabetes (PwDs).

While there is no debate about the usefulness of SMBG in type 1 diabetes, its role in type 2 diabetes is less clear and the 'when, where and for whom should SMBG be used in type 2 diabetes?' still remains a debate. There is no doubt however that SMBG is an essential part of diabetes care for the following reasons:

1. To detect hypoglycemia, which may often be silent
2. To reach target HbA1c value
3. Prevent avoidable glycemc burden
4. Prevent complications of diabetes
5. Patient empowerment

In a recent review¹, we pointed out how structured glucose testing can be done in people with type 2 diabetes. This can be done in one of several ways:

1. Doing a fasting and post prandial for breakfast, lunch and dinner on different days along with an occasional 3.00 am blood sugar, thus limiting the number of SMBG which need to be done.
2. There are some who believe that doing a 7-point profile, one or more times a week is more useful.

There can be different permutations and combinations of SMBG to ensure that we capture the blood glucose swings throughout the day. This data can be collated and the glucose pattern analysis can be done. Today, there is better digital connectivity and also various apps which help to present the data in a more user friendly manner. The accuracy of the meters has also improved dramatically. However, some meters still do not fulfill accuracy requirements. It is suggested to check evaluations from independent study groups before recommending a meter. Despite this, in countries where people have to pay 'out of pocket', the use of SMBG remains low. This is undoubtedly related to the cost of the SMBG systems and the lack of reimbursement of the test strips. It is also, however, partly because PwDs are not empowered to use

the data to make adjustments to the diet, physical activity and medications based on the SMBG readings obtained. There is also a perception among PwD that SMBG is not accurate. The solution to these problems could be to increase awareness about the need for performing SMBG and to empower PwD about what actions should be taken with their results.

In conclusion, self-monitoring of blood glucose is an essential component of type 2 diabetes therapy. SMBG systems have become more accurate with time and now provide a variety of useful features such as digital diaries or connectivity. If we improve the reimbursement for SMBG and the test strips, this could lead to greater uptake of SMBG in countries where use of SMBG is still suboptimal.

Reference:

1. Pleus S, Freckmann G, Schauer S, Heinemann L, Ziegler R, Ji L, Mohan V, Calliari LE, Hinzmann R. Self-Monitoring of Blood Glucose as an Integral Part in the Management of People with Type 2 Diabetes Mellitus. *Diabetes Therapy*. 2022;13:829–846