

## The glycaemic personality: A SURE framework of person-centred choice in diabetes care

Sanjay Kalra,<sup>1</sup> Hinde Iraqi,<sup>2</sup> Rakesh Sahay,<sup>3</sup> Saptarshi Bhattacharya<sup>4</sup>

### Abstract

Diabetology is becoming more and more complex, and requires simple yet comprehensive models to facilitate appropriate management of the syndrome. This communication highlights the concept of glycaemic personality, defined as the sum of all attributes, both biomedical and psychosocial, which influence the glucophenotype of an individual. This concept can be explained by using the SURE model, which lists four factors that influence choice of glucose-lowering therapies and their targets. These include the Severity and Style of hyperglycaemia, Urgency and Utility of glucose control, Relative Risk of hypoglycaemia, and Expected adherence to therapy and Expectations of the person living with diabetes.

**Keywords:** Glucophenotype, Glycaemic personality, Glycaemic profile, Glycaemic variability, Clinical decision making, Patient centred care.

### Challenges in Diabetes Care

Modern guidance supports a patient-centred approach to the management of diabetes. The choice of glucose-lowering therapy, and its target, is decided by various factors. Current recommendations seem to have a uni-focused approach, and consider the presence or absence of established atherosclerotic cardiovascular disease (eASCVD) as the major determinant of choice of therapy.<sup>1</sup> Such a thought process is incomplete, as it does not take the multifactorial pathophysiology and multifaceted clinical presentation of diabetes into account.

Greater understanding of the nuances of diabetes care has led to an appreciation of the risks associated with hypoglycaemia. Patient-centred care, in its true essence, encourages consideration of both biomedical and

psychosocial needs of the individual.<sup>2</sup> These aspects, too, are not sufficiently considered in certain guidelines.

### Glycaemic Personality

To be truly patient centric, one must take the individual's personality into account. In persons living with diabetes, the personality includes not only the "the sum total of the physical, mental, emotional, and social characteristics of an individual,"<sup>3</sup> but also glycaemic parameters. We term this overarching concept the Glycaemic Personality. Glycaemic personality can be defined as the sum of all attributes, both biomedical and psychosocial, which influence the glucophenotype<sup>4</sup> of an individual. Glycaemic personality carries a more 'human' feeling than the biochemically oriented word 'glucophenotype'.

### The Sure Model

To understand glycaemic personality, we suggest a four-pronged SURE model to help plan therapeutic targets as well as strategies. The SURE mnemonic is a positive and pragmatic method of sharing this concept with fellow diabetes care professionals. It promotes rational management of diabetes care, and thus facilitates the pursuit of health for all persons living with diabetes.

The SURE framework includes four domains, two of which we term Action-oriented, and two, Caution-oriented. The first domain to be assessed is Severity and Style of hyperglycaemia. This includes an assessment of the HbA1c, as well as glycaemic profile or glucophenotype of the individual. That HbA1c can be used as a stratification tool to help plan intensity of initial therapy is well documented.<sup>5</sup> Predominant fasting hyperglycaemia will merit a different approach as opposed to postprandial or combined hyperglycaemia.

Along with the severity and style of hyperglycaemia, one must take into account the Urgency and Utility of glucose control. An individual with comorbid medical, surgical or obstetric condition that needs early resolution of hyperglycaemia for treatment, must be managed more aggressively. On the other hand, a person without such a medical history, or with limited life expectancy, should be treated conservatively.<sup>6</sup>

.....  
<sup>1</sup>Department of Endocrinology, Bharti Hospital, Karnal, India, <sup>2</sup>Department of Endocrinology and Diabetology, Ibn Sina Hospital, Rabat, Mohammed V University, Rabat, Morocco, <sup>3</sup>Department of Endocrinology, Osmania Medical College, Hyderabad, India, <sup>4</sup>Department of Endocrinology, Max Hospital, Patparganj, New Delhi, India.

**Correspondence:** Sanjay Kalra. Email: brideknl@gmail.com

'Risk of hypoglycaemia' the third domain of the SURE rubric, reminds the physician of the need to observe caution along with action. Persons with a higher relative risk of hypoglycaemia should be treated with safer drugs, at lower doses, to less stringent targets.

Expected adherence and Expectation of persons living with diabetes complete the last angle of the SURE quadruple. This domain implies the need to assess neuro-psychocognitive motivation and ability to initiate, adhere and persist with a prescribed therapeutic therapy strategy. It also includes socioeconomic factors such as affordability. The phrase 'Expected adherence' is physician-centric, but the words 'Expectations of persons' has a strong patient-centric connotation. The E domain of the SURE thus recognizes and respects the biopsychosocial model of health, as well as the patient-centred approach to diabetes care.<sup>7</sup>

### Summary

The glycaemic personality construct, supported by the SURE mnemonic, therefore, provides a comprehensive overview of the factors which influence approach to our choice targets and tools in diabetes care. SURE promotes

a holistic attitude to diabetes management. It creates a balance between action and caution, and facilitates pragmatic decision-making based upon both biomedical and psychosocial variables.

### References

1. Davies MJ, D'Alessio DA, Fradkin J, Kernan WN, Mathieu C, Mingrone G, et al. Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia*. 2018; 61:2461-98.
2. Kalra S, Megallaa MH, Jawad F. Patient-centered care in diabetology: From eminence-based, to evidence-based, to end user-based medicine. *Indian J EndocrMetab*. 2012;16:871.
3. Personality. Available at: <https://www.dictionary.com/browse/personality?s=ts>. Cited on 16 November 2019.
4. Kalra S, Gupta Y. The gluco-phenotype. *J Pak Med Assoc* 2016; 66:118-9.
5. Garber AJ, Abrahamson MJ, Barzilay JI, Blonde L, Bloomgarden ZT, Bush MA, et al. AACE/ACE comprehensive diabetes management algorithm 2015. *Endocr. Pract* 2015; 21:438-47.
6. Home P. Controversies for Glucose Control Targets in Type 2 Diabetes: Exposing the Common Ground. *Diabetes Care* 2019; 42: 1615-1623.
7. Kalra S, Baruah MP, Sahay R. Salutogenesis in type 2 diabetes care: a biopsychosocial perspective. *Indian J Endocr Metab* 2018; 22:169-71.