

3D Sapiotyping: A Three Dimensional Definition

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Abstract

Precision medicine and personalized care have been at centre-stage in diabetology, and rightfully so. Various means of classification and clustering have been proposed to help identify clinical features, causative factors and 'curative' strategies for people living with diabetes. Sapiotype describes "the various attitudes that person with diabetes may have towards their disease, their doctor or health care providers, a specific diagnostic procedure, drug, delivery device, and the health care system at large". The sapiotypic spectrum is a wide one, which encapsulates sapiotypic fluidity, or variability in attitudes, as well. In this communication, we further expand the sapiotypic spectrum by creating a 3- dimensional model.

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Introduction

Various strategies are used to create types or clusters of type 2 diabetes, in order to improve clinical profiling as well as clinical care.^{1,2} The word sapiotype has been used to describe "the various attitudes that persons with diabetes may have towards their disease, their doctor or health care providers, a specific diagnostic procedure, drug or delivery device, and the health care system at large".³ This comprehensive definition includes commonly encountered conditions such as diabetes distress, insulin distress, insulin inertia, clinical inertia, and doctor shopping.

The sapiotypic spectrum that has been described is based upon various emotions. These emotions range from 'passive' or 'stepping back' responses such as apathy, acquiescence, anxiety, apprehension and alarm, to 'active' or 'hyperactive' feelings like avowed denial, annoyance, argumentative behaviour, anger and aggression. The ideal sapiotype, of awareness, acceptance and action, is the attitude that facilitates achievement of optimal therapeutic outcomes.

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The Spectrum of Intelligence

The word 'sapio' is derived from the Latin word 'sapiens', which means intelligence. The construct of intelligence is a multifaceted one. While various types of intelligence have been described, four types are well known. These are intelligence quotient (IQ), emotional quotient (EQ), social quotient (SQ) and adversity quotient (AQ). We paraphrase these words in order to create a multifaceted rubric of sapiotypes, as related to diabetes care. We propose a model which will help plan counseling strategies and behavioural therapies in diabetes praxis.

IQ measures an individual's level of health literacy and health numeracy. Health literacy implies the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others.⁴ Health numeracy refers to the degree to which individuals have the capacity to access, process, interpret, communicate, and act on numerical, quantitative, graphical, biostatistical, and probabilistic health information needed to make effective health decisions.⁵

EQ refers to one's ability to harness their emotions in a positive manner. Gluco-coping skills and gluco-responsive mechanisms form the EQ for persons living with diabetes.^{6,7} SQ is the ability to communicate with others in a meaningful manner. From a diabetes care perspective, we can list SQ as two subtypes: communication with caregivers at home, place of work or study, and society, as well as communication with members of the health care team. AQ is the ability to overcome challenges or adversity related to diabetes care: this overlaps partly with EQ.

A Comprehensive Construct

We propose a 3-dimensional (3D) model, using social, emotional and literacy quotients, to create a comprehensive sapiotype that can be used to characterized person living with diabetes (Figure). This helps create a rubric that facilitates therapeutic decision making regarding the type of counseling and education strategies.

The basis of the 3D classification, as for the earlier unidimensional construct,³ remains emotional profiling. Emotions are the limiting factor for acceptance, or otherwise, of prescribed therapy. Simplifying emotional sapiotypes into three categories-nervous, neutral and

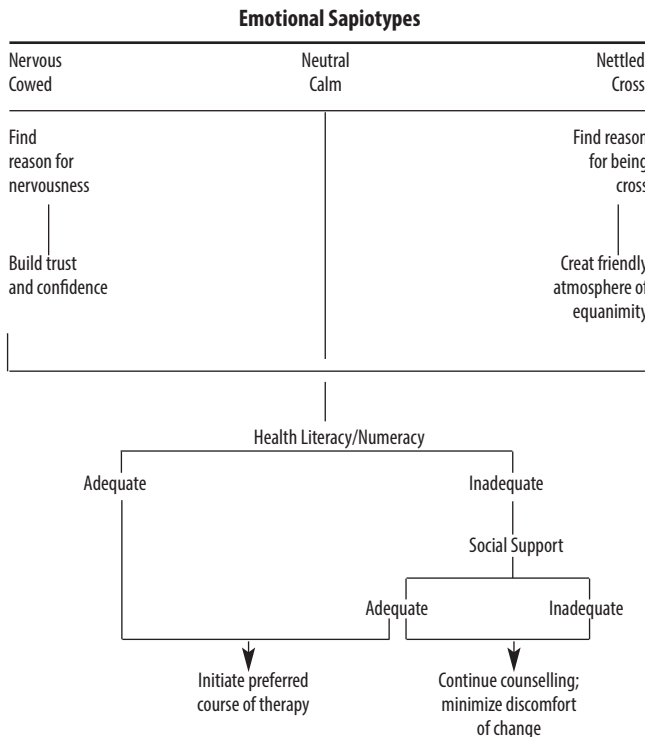


Figure: Sapiotypic Triage: Emotional Sapiotypes

nettled, or cowed, calm and cross, is a simple way of conducting an emotional triage. This allows the diabetes care professional to plan initial communication and counselling strategies, while preparing the patient to accept, adhere to, and assiduously persist with suggested interventions.

Along with emotional sapiotyping, an evaluation of the individual's health literacy and numeracy level, as well as social sapiotyping needs to be done. Every therapeutic intervention in diabetes, including lifestyle modification, needs a certain level of literacy and numeracy skills. Treatments should be suggested keeping the individual's capabilities in mind. Interpreting a continuous glucose monitoring chart, counting carbohydrates, and self-titrating insulin doses, for example, cannot be prescribed to persons who are unable to comprehend these concepts.

At the same time, social profiling is also necessary. The availability of social support, its quality, and the person's ability to communicate his or her needs is of utmost importance in deciding therapy. Persons with limited social skills and support should aim for less aggressive glycaemic targets, with less complex regimens.

The 3D model encompasses important determinants of health attitudes towards diabetes care and diabetes care professionals. These may also be classified in three domains: cognitype, psychotype and sociotype.

Cognitype

Cognitype refers to 'health related cognition or intelligence of the person living with diabetes. While literacy, numeracy and awareness are important aspect of cognition, health literacy, health numeracy and health awareness are even more important. General literacy and health literacy may or may not overlap with each other, and the astute physician should assess both.

Psychotype

Psychotype implies the psychologic traits of the person living with diabetes, which influence the overall sapiotype. Some individuals are cautious, concerned and careful by nature; others are calm and composed; while others may be carefree, courageous or confrontational.

Sociotype

The third dimension, the sociotype, refers to the individual's social strengths. Some persons are capable, confident and competent in navigating the health care system and the social demands and challenges of living with diabetes. Others may feel incapable or incapacitated. Some individuals are able to take appropriate decision, involving all stakeholders such as family, friends and fellow workers. Others are unable to do so, and may be influenced by ill-informed, (even though well meaning) informants.

Summary

As we move towards precision medicine in diabetes care, we should not lose track of the precision required in assessing the psychosocial and socioenvironmental domains and determinants of health. This is what the concepts of sapiotyping, and 3D sapiotyping, seek to convey. The 3D sapiotyping model represents an improvement over the earlier unidimensional rubric. An understanding of the emotions, cognition and social ability of the person living with diabetes, and other chronic diseases, helps assess and address health related issues in a comprehensive manner. This will help craft personalized preventive as well as therapeutic strategies for better health outcomes.

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