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Uncertainty as an Oral Health Professional: Beginning with Recognizing the Reality

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When a patient encounters an oral health care professional, what is their expectation with respect to the certainty of the clinician with respect to the diagnosis and recommendations for treatment? The patient most likely expects the clinician to be certain of the diagnosis and that the options for treatment are appropriate for that diagnosis. During the Informed consent process a patient will frequently say, "What do you think would be best, doctor?" Notice that the patient asks "would be best" because the patient has uncertainty due to the lack of professional expertise with respect to the diagnosis and treatment. The patient expects the clinician as an expert to be certain concerning the 'best' choices for oral health care. The question becomes, what process does the oral health professional follow to meet that expectation? There are many potential points of uncertainty in the diagnostic process and developing a process to address each area of uncertainty, we argue, should be a critical competency in an oral health professional programs. This paper discusses what, why, and how oral health professionals develop a process that can guide them in uncertain clinical situations.

Uncertainty in healthcare disciplines refers to a condition that may occur during the process of either diagnosis and/or treatment planning. It is not unusual that a clinician may encounter a situation they have not previously experienced. Diagnosing/Managing these unknown situations may have subsequent ramifications on the treatment plan and care provided. If the clinician assigns a diagnosis to the unknown presentation and the diagnosis is not accurate, then there could be errors in the treatment planned and provided. Yet there are some overlaps with respect to precision in

knowing either a specific diagnosis or the appropriate treatment plan. Many variables can impact the final choices in both areas and it is imperative for a clinician to appropriately recognize their uncertainty and initiate a process to manage that uncertainty.

We have all likely come in contact with a patient who has received multiple procedures, often of the same type, in a quadrant of their mouth. All of these procedures were provided as the treatment to address a specific diagnosis made by the clinician. However, despite multiple clinical interventions the patient's signs and symptoms persist. How should such a clinical outcome be interpreted? Was the clinical procedure incompletely performed, alternatively was the diagnosis not accurate. If the clinician made a final diagnosis when a level of uncertainty remained with respect to the clinical presentation then the decisions on a therapeutic approach was based on incomplete information.

Competency based education has been introduced to Dentistry for more than 2 decades. However considering the recognition and management of uncertainty is a competency that is not specifically addressed. These topics should be carefully examined from the perspective of their consideration in an educational program. When an oral health care provider is completing an educational program there is almost always an implied single answer to a question, essentially a certainty outcome. Multiple choice examinations are a predominant method of student assessment and most often the questions have a single correct answer. However, that single correct answer may not readily transition to a clinical experience with multiple aspects of uncertainty. In many learning situations a professor displays an image to a class of students and states, "this

is an example of XXXX” with the implication that any time a student encounters the same sign/symptoms in a clinical setting that the diagnosis must be XXXX.

However, many different processes can present with similar changes in signs/symptoms and typically the clinician proceeds through a process of differential diagnosis to initially consider the greatest number of potential answers and then embarks on a process of generating additional information to reach a final the diagnosis. Appreciating the initial uncertainty when encountering a clinical presentation is an important skill to develop. The initial recognition should progress through a process of generating the additional information necessary to achieve a final diagnosis for the signs/symptoms observed. Throughout this process decisions are required to identify the types of additional information necessary and to interpret the findings in this new information and begin to focus thinking towards a specific diagnosis. Uncertainty should be accepted as a necessary component of the diagnostic process and a driver for the generation of additional information that can be used to understand the patient’s problem.

An important initiative in all healthcare is Evidence Based Practice (EBP). This EBP represents the intersection of three different domains; the best scientific evidence, the clinician’s experience and the patient’s values and preferences. However, each of these three domains can contain considerable variation making it impossible to unequivocally state to a patient that a specific approach achieves the highest level of evidence-based care. Thus, there is definitely uncertainty when recommending a treatment plan to a patient because the best scientific evidence is based on research, which inherently accepts a level of uncertainty in an observed result.

The best scientific evidence in a clinical application is based on research that commonly uses a clinical trial model employing a double-blind, placebo-controlled analysis. The results of these rigorous studies are examined by statistical methods that generate a probability (p-value). A p-value of .05 is considered strong evidence to support the result, but what does a p of .05 actually mean. A p-value of .05 means that there is a 1 in 20 chance (5%) that the outcome observed in the study occurred by chance alone or stated in the positive a 19 in 20 chance (95%) that the same outcome would occur in the future. In completing a full Informed Consent process with the patient on a treatment plan, do you tell the patient that there is a 95% chance that this will work? Further that probability was based on a rigorous clinical research project that may not be equivalent to the situation in a private oral health

care practice especially if there is any uncertainty with respect to the clinical presentation. In short, there is clearly uncertainty, that is acknowledged and accepted, in the best approaches to Evidence Based Dentistry.

In this short essay, we bring forward a case that needs to be made in oral health professional education: “When in the process of patient evaluation, should a definitive diagnosis be made on which to base a treatment plan?” Such an outcome question should guide educators’ reflections on curricular and assessment design. Frequently, in oral health education the methods of assessment used both imply that a final diagnosis can be known and that such final diagnosis can be determined in a short, finite period of time. The methods of assessment in oral health education imply that the timing of arriving at the final answer/diagnosis should be nearly immediate, rather than after proceeding through a deliberate process of evaluating and requesting additional information when gaps in knowledge are identified.

As a result of these curricular design and assessment common practices, the Culture of Certainty has played an influential role in all oral health professionals preparation programs and subsequently a dominate culture among oral health professionals [1]. We urge educators and professionals to consider the following questions: Is acknowledging uncertainty in a clinical setting a strength or a weakness of a clinician? What did your oral health education teach you about dealing with uncertainty? If you stated that you were uncertain in an educational setting was there any consequence to you as a student?

We posed many questions in this essay to invite discussions and reflections on how we can help our oral health professionals develop a mindset of accepting and managing uncertainty. The profession collectively can begin recognizing that uncertainty is a fundamental reality of health care that is critical to be unpacked in education programs.

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Conflict of Interest

No Conflict of Interest.

References

1. von Bergmann, H Shuler CF (2019) The culture of certainty in dentistry and its impact on dental education and practice. J Dent Educ 83(6): 609-613.