Improving Patient Outcomes through the Diagnostic and Care Planning Process

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As dental hygienists, we are always searching for the appropriate, evidence-based interventions for our patients.[1] Instead of skipping straight to the solutions, let's start with the questions and determine how we decided our patient needed such solutions. In practice, we conduct many assessments on our patients searching for problems that affect oral and systemic health outcomes. These identified problems are the dental hygiene diagnoses, or DHDx, that we address in the dental hygiene care plan.[2-3] When we educate patients on their specific problems/DHDx, we are providing the patient the opportunity to understand and make the best decisions for their health.[4]

Consider this patient. Blood pressure is evaluated on a 70-year-old male dental hygiene patient and determined to be 155/95 mmHg. He states he is very nervous about dental treatment. His wife passed away 6 months ago, and he has been lonely. His chief concern is sensitivity to cold on the exposed root surfaces of his mandibular anterior teeth, and this pain is the only reason he came into the office today. What problems would you document as DHDx at this point in the appointment? What interventions would you include in the care plan to address these DHDx? We will address the answers to this case later.

The expectations of dental hygiene practice are well beyond focusing specifically on periodontal and caries diseases.[2] As we evaluate patient systemic diseases, behavioral health, medications, tobacco and alcohol use, head and neck cancer exam findings, oral mucosal and dentition abnormalities, and social determinants of health (SDOH) unmet needs, as well as conduct a thorough investigation of periodontal health, we have learned there are many influencing factors for patient oral health outcomes. Some practitoners might still view the DHDx as just the periodontal classification stating whether the patient has periodontal health, gingivitis, or staged and graded periodontitis.[5] While this is still extremely important, so is the revelation that there are many interlinking components to optimal patient health and oral health that cannot be overlooked.

Because we have the responsibility to provide patients with the best evidence-based care possible, we must expand our view of our diagnostic process and the categories of DHDx.[6] What does evidence-based care mean? Health information, as well as misinformation, is at the fingertips of every health care provider and invariably every patient.[1] Our role as health care professionals is to evaluate the research evidence for dental hygiene practice and determine the best possible diagnostic and care plan interventions available.[1,3] We make our decisions based on research evidence.[1,3]

All patients present in our practices with a level of risk for head and neck cancer, periodontal disease, and dental caries whether these are low, moderate, high, or extreme risk levels.[2] These risks levels are documented as the DHDx.[6] Then evidence-based interventions for those risk levels are included and documented in the patient's care plan. According to the Food and Drug Administration (FDA), there are no

safe tobacco products.[7] In dental hygiene practice, we ask patients about their tobacco use because we have evidence-based knowledge that tobacco use negatively affects systemic and oral health.[8] We assess for use, and document use, as DHDx of a risk for oral cancer and a risk for periodontal disease. The ultimate goal of dental hygiene practice and patient care is to prevent disease. By recognizing and addressing a risk, we have the opportunity for early intervention and prevention.

We see evidence of attrition, erosion, and abfractions and patients report dentinal hypersensitivity on a regular basis. These are documented as DHDx and any product recommendations, treatment modalities, patient education, and/or referrals are documented as interventions in the patient care plan.[6]

Additionally, if a patient presents with depression and anxiety, these behavioral health problems are invariably affecting oral health self-care and optimal oral health.[9-10] If a patient presents with housing insecurity and has been living in their car, this is most likely contributing to less-than-optimal oral health and possibly negatively influencing the ability to manage systemic diseases that affect oral health such as diabetes mellitus.[11] Does the patient who lives in their car have the resources to get the supplies needed for self-management of their diabetes? SDOH factors are negatively impacting systemic and oral health outcomes for many patients.[11-17] If we do not assess for social needs, do we truly know if our patients have a need?[18] When we assess SDOH needs and unmet needs are discovered, we document a DHDx such as housing insecurity, and then provide resource referrals in our dental hygiene care plans.[6] The optimal goal is to improve patient systemic and oral health outcomes. Documentation affords us the opportunity to follow-up with the patient at a future time to ascertain if help was obtained.

Patients present in our practices with problems on many fronts. A DHDx is basically a documentation of the problems the patient is presenting at a given time at a particular appointment. Let's look back at the patient mentioned earlier. Assessment data for health history, vitals, and chief complaint was given. Even with this limited data, this patient has the following DHDx:

- Risk for emergency due to uncontrolled blood pressure and dental anxiety requiring patient education, a referral to a physician, and stress reduction protocol.
- Psychosocial hindrance to care due to loneliness requiring possible referral for mental health counseling, and referral to social services and/or a senior citizen's center.[9-10]
- Dentinal hypersensitivity due to exposed root surfaces with care planning interventions for patient education, appropriate in-office treatments, and self-care product recommendations.

Evidence is available which means the dental hygiene clinician has the responsibility to search the evidence and provide the education and appropriate person-centered interventions necessary for each patient under their care. As dental hygienists become more proactive in expanding the diagnostic process to include the documentation of the patient's DHDx, both systemic and oral health outcomes can potentially be improved.

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REFERENCES

1. Nathe, C. Health misinformation: The role of the dental hygienist in providing evidence-based information. J Dent Hyg. 2021 Oct; 95(5) 4-5.
2. ADHA. Standards for clinical dental hygiene practice [Internet]. Chicago: American Dental Hygienists' Association; 2016 [cited 2024 Sept 9]. Available from https://www.adha.org/wp-content/uploads/2022/11/2016-Revised-Standards-for-Clinical-Dental-Hygiene-Practice.pdf
3. ADHA. Dental hygiene diagnosis: An ADHA white paper [Internet]. Chicago: American Dental Hygienists' Association; 2016 [cited 2024 Sept 9]. Available from https://www.adha.org/wp-content/uploads/2023/01/ADHA_White_Paper_Dental_Hygiene_Diagnosis_2016-08-22.pdf
4. Committee on Diagnostic Error in Health Care; Board on Health Care Services; Institute of Medicine; The National Academies of Sciences, Engineering, and Medicine; Balogh

EP, Miller BT, Ball JR, editors. Improving diagnosis in health care. Washington (DC): National Academies Press (US). 2015. 472p.

5. Caton JG, Armitage G, Berglundh T, Chapple ILC, et al. A new classification scheme for periodontal and peri-implant diseases and conditions - Introduction and key changes from the 1999 classification. J Clin Periodontol. 2018 Jun;45 Suppl 20:S1-S8.
6. Gurenlian, J, Swigart, D. Components of dental hygiene diagnosis. Dimensions Dent Hyg. 2018 Dec; 16(12), 36-39.
7. Food and Drug Administration. The relative risks of tobacco products [Internet]. Silver Spring (MD): Food and Drug Administration; 2024 [cited 2024 Aug 21]. Available from https://www.fda.gov/tobacco-products/health-effects-tobacco-use/relative-risks-tobacco-products
8. Silveira ML, Everard CD, Sharma E, et al. Tobacco use and incidence of adverse oral health outcomes among US adults in the population assessment of tobacco and health study. JAMA Netw Open. 2022 Dec 1;5(12):e2245909.
9. Mann F, Wang J, Pearce E, et al. Loneliness and the onset of new mental health problems in the general population. Soc Psychiatry Psychiatr Epidemiol. 2022 Nov;57(11):2161-78.
10. Stepović M, Stajić D, Rajković Z, et al. Barriers affecting the oral health of people diagnosed with depression: A systematic review. Zdr Varst. 2020 Oct 18;59(4):273-80.
11. Hill-Briggs F, Adler NE, Berkowitz SA, et al. Social determinants of health and diabetes: A scientific review. Diabetes Care. 2020 Nov 44(1):258–79.
12. Javed Z, Haisum Maqsood M, Yahya T, et al. Race, racism, and cardiovascular health: Applying a social determinants of health framework to racial/ethnic disparities in cardiovascular disease. Circ Cardiovasc Qual Outcomes. 2022 Jan 15(1):e007917.
13. Javed Z, Valero-Elizondo J, Maqsood MH, et al. Social determinants of health and obesity: Findings from a national study of US adults. Obesity (Silver Spring). 2022 Feb 30(2):491-502.
14. Ramos-Gomez F, Kinsler JJ. Addressing social determinants of oral health, structural racism and discrimination and intersectionality among immigrant and non-English speaking Hispanics in the United States. J Public Health Dent. 2022 Mar 82 Suppl 1(Suppl 1):133-139.
15. Wiener RC, Sambamoorthi U, Shen C, et al. Food security and unmet dental care needs in adults in the United States. J Dent Hyg. 2018 June 92(3):14-22.
16. Tellez M, Zini A, Estupiñan-Day S. Social determinants and oral health: An update. Curr Oral Health Rep. 2014 June 1:148–52.
17. Agarwal P, Agrawal RR, Jones EA, Devaiah AK. Social determinants of health and oral cavity cancer treatment and survival: A competing risk analysis. Laryngoscope. 2020 Sep 130(9):2160-65.
18. Mays KA, Cooper A, Wang Q. Bridging the health gap: Measuring the unmet social needs of patients within a dental school clinic. J Dent Educ. 2023 Aug 87(8):1099-1107.