Preoperative Oral Assessment and Referral Guidelines: An Evidence-based Practice Change

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Clinical Question

- Do comprehensive oral assessment and referral guidelines in the preoperative setting increase adult patients' access and follow-up for primary dental care?

Purpose of the Evidence-based Practice (EBP) Change Project

- Identify the incidence of oral health disease in a perioperative setting
- Identify an EBP solution
- Develop and implement an effective solution to address the oral health concern

Significance of Clinical Problem

- The poor dental health of preoperative surgical patients continues to be an unaddressed clinical problem encountered by healthcare providers. Adult patients with chronic disease may have exacerbated oral health conditions, and chronic diseases may exacerbate the individuals' oral health status (NIDCR, 2014).Oral habitat is significantly influenced by medications, saliva, tooth brushing, flossing, smoking, and alcohol. A bacterial shift in the biofilm leads to periodontal disease, a condition that eventually destroys the tooth's attachment to the gums, and leads to tooth loss (Marsh, 2006).
- Oral health disease is a preventable condition, and lack of access to dental services denies the individual the opportunity for prevention, early diagnosis, and intervention (Kandelman et al; 2008; Peterson & Yamamoto, 2005; NIH, 2014). The U.S. Surgeon Generals' Report revealed oral health objectives to include oral disease identification efforts, by enlisting the expertise of individuals, health care providers, communities, and policy makers at all levels of society (NIDCR, 2014; NIH, 2014).

Results

Table 1
Characteristics of Participants in Mean Age, Gender, and Ethnicity

Mean age	Male	Female	African American	Caucasian
53.5	41.66% (n = 15)	58.33% (n = 21)	66.6% (n = 24)	33.3% (n = 12)

Table 2
Results of the Two sample Paired t-Test

Pretest DHKQ to Postest DHKQ	p = 0.001

Note. P ≤ 0.05 indicates statistical significance between means.
DHKQ = Dental Health Knowledge Questionnaire

t-Test: Paired Two Sample for Means

Dental Health Knowledge	Pretest Score %	Posttest Score %
Mean	78.33333333	94.44444444
Variance	151.4285714	71.11111111
Observations	36	36
Pearson Correlation	0.376289338	
Hypothesized Mean Diffe	0	
df	35	
t Stat	-8.043152845	
P(T<=t) one-tail	9.08124E-10	
t Critical one-tail	1.689572458	
P(T<=t) two-tail	1.81625E-09	
t Critical two-tail	2.030107928	

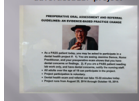
Table 3
Summary of Dental Health Knowledge Questionnaire Scores
(Percentage of Correct Responses)

Question	Pretest Score	Posttest Score
1	97% (n=35)	100% (n=36)
2	53% (n=19)	88% (n=32)
3	58% (n=21)	97% (n= 35)
4	61% (n=22)	94% (n=34)
5	78% (n=28)	97% (n=35)
6	97% (n=35)	100% (n=36)
7	94% (n=34)	97% (n=35)
8	97% (n=35)	100% (n=36)
9	100% (n=36)	100% (n=36)
10	44% (n=16)	75% (n=27)

Note. 36 total participants for each questionnaire, n = participants.
See Dental Health Knowledge Questionnaire for all the questions.

Materials and Methods

- Flyers in exam rooms advertisedEBP project



Individuals with periodontal disease and tooth decay are identified

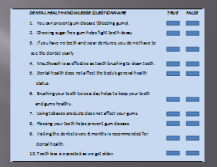
BOHSE
- Brief Oral Health Status Examination tool
- Efficient, reliable and valid tool utilized by nurses to identify oral disease.

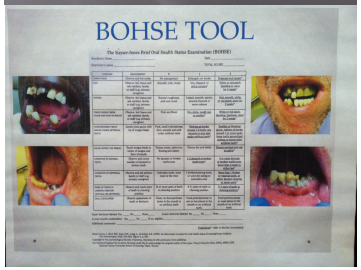
DHKQ
- Pretest Dental Health Knowledge Questionnaire administered in exam room
- Post test administered in 1 week

Referral
- Maryland Healthy Smiles Dental Program
- Low cost dentistry providers providing sliding scale payment

Preoperative nurses were given an educational lecture via Power Point on the use of the BOHSE tool for oral health assessments, followed with a skills assessment session. All nursing attendants were given a 1.0 continuing education unit (CEU) by the project manager (PM).

Dental Health Knowledge Questionnaire (DHKQ)





Conclusions

- Performing an oral health assessment and identifying oral health disease in the preoperative patient, with dental referral guidelines, is a new concept for the Nurse Practitioner working in a preoperative setting.
- The goals of the EBP change were successful in providing preoperative nurses an educational program to improve clinical knowledge of oral health assessments, to improving preoperative dental health knowledge in patients with oral health disease, and to increasing dental health referrals for intervention preoperatively. Of the 36 participants, 100% received scheduled dental intervention with a dental clearance letter before surgery.
- This EBP change project supports one of the recommendations made by the IOM (2011) to develop a protocol that is accessible across clinical settings with defined oral health clinical competencies that can be used to inform decision making and measure healthcare outcomes.

Implications for Nursing Practice

- A future implication from the EBP change initiative includes a need for academia to target a national initiative for the establishment of a universally mandated oral health assessment curriculum for all nursing students.
- Oral health assessment questions with dental intervention recommendations from case studies should be incorporated in Board examination questions at a national level.
- In addition, studies are needed to collect comprehensive, longitudinal data from dental records and clinical examinations to further the understanding of the relationship between oral health and systemic disease associations.

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