FEARS AND BELIEFS ABOUT PAIN AND DENTISTRY PREDICT TREATMENT-SEEKING BEHAVIOR

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BACKGROUND

- Health behaviors are complex, and individual differences appear to be explained by variation in a host of psychosocial variables
- With regard to oral health, treatment-seeking behavior and associated health outcomes are related to fear, anxiety, pain perception, and cognitions about controllability and the value of dental health (see McNeil & Randall, 2014)
- Avoidance of dental care resulting from fear has major implications for oral and overall health
  - Dental treatment avoidance is associated with increased incidence of decayed and missing teeth, and decreased incidence of restored teeth (Schuller et al., 2003)
  - Without dental treatment, caries and periodontal disease worsen, causing discomfort, pain, poor satisfaction with one's appearance, and functional limitation (i.e., oral health-related quality of life; Crofts-Barnes et al., 2010; Doerr et al., 1998)
  - Untreated oral disease may exacerbate cardiovascular disease and diabetes, among other systemic health concerns (Williams et al., 2008)
- In the USA, 45% of adults report moderate to significant levels of dental care-related fear (Dionne et al., 1998) and 5-10% of the population cites fear as the sole reason for completely avoiding treatment (Milgrom et al., 2009), percentages which have remained steady for five decades (Smith & Heaton, 2003)
- **The aim of this study was to examine the relation between dental care-related fears, fear of pain, and dental beliefs, and to determine how these variables impact treatment-seeking behaviors and oral health outcomes over the long term**

METHODS

- **Participants:** 82 adults (50% female, *M* age = 35.5 years, SD = 14.6) who presented to the Emergency Clinic at the West Virginia University School of Dentistry
  - Average number years of education: 12.4 (SD = 1.9)
- **Measures:**
  - Dental Fear Survey – 20-item self-report measure of anxious reactions to dental situations; widely utilized in behavioral dentistry research; well-evidenced reliability and validity (Kleinknecht et al., 1973)
  - Fear of Pain Questionnaire-9 – 9-item self-report measure of pain-related fear (Severe, Minor, and Medical Pain subscales); established norms for clinical and non-clinical samples; strong reliability and validity (McNeil et al., 2014)
  - Dental Beliefs Scale – 28-item self-report measure of feelings and reactions to dental work and dentistry in general in three areas: professionalism, communication, and lack of control; good psychometric properties (Kvale et al., 2004)
- **Procedure:**
  - Participants completed study questionnaires while waiting for their emergency dental visit
  - Dental treatment-seeking behavior was followed for a ten-year period by way of retrospective chart review; Number and types of visits over the study window were recorded for each participant

RESULTS

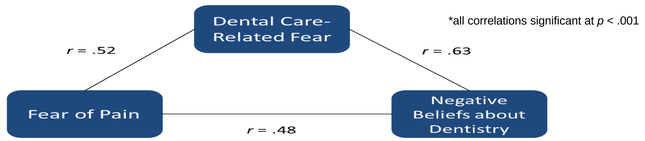

Figure 1. Relation between dental care-related fear, negative beliefs about dentistry, and fear of pain in an emergency treatment-seeking population.

Table 1. *Differences in Fear of Pain, Dental Care-Related Fear, and Negative Cognitions about Dentistry, by Treatment-seeking Type*

	Fear of Pain Questionnaire Score	Dental Fear Survey Score	Dental Beliefs Survey Score
Symptomatic only	*M* = 23.85 (SD = 7.72)	*M* = 54.41 (SD = 26.40)	*M* = 58.41 (SD = 27.21)
Asymptomatic	*M* = 21.11 (SD = 6.27)	*M* = 38.44 (SD = 20.57)	*M* = 35.44 (SD = 5.77)
	t(80) = 1.02, *p* = .15	***t*(80) = 1.75, *p* = .04**	***t*(80) = 2.51, *p* = .005**

Table 2. *Predicting Extraction Procedures over a Decade*

Predictor Variable	Unstandardized regression coefficient (B)	Standard Error	Standardized Regression Coefficient (β)	Significance Value (*p*)
Sex	-.371	.534	-.081	.489
Age	.039	.020	.223	.062
Years of Education	-.016	.127	-.014	.901
Dental Fear Survey Score	-.003	.013	-.036	.811
Dental Beliefs Scale Score	-.003	.013	-.032	.837
Fear of Pain Questionnaire Score	**-.079**	**.040**	**-.261**	**.046**

- Participants receiving at least one extraction had less education (*M* = 12.0 years, SD = 2.5) than those who received no extractions (*M* = 13.4 years, SD = 2.2, *t*(80) = 1.95, *p* = .04)
- Participants receiving at least one restoration (e.g., filling) had more education (*M* = 13.4 years, SD = 1.9) than those who had no restorative procedures over the ten-year period (*M* = 12.1 years, SD = 2.6, *t*(80) = 2.26, *p* = .03)
- For participants reporting higher levels of dental fear, 74% indicated that "pain" was the reason they typically visited the dentist, while 51% of patients reporting lower levels of dental fear indicated that "pain" was the reason, $\chi^2(1) = 4.20$, *p* = .04.

DISCUSSION

- As observed in other patient populations, in an Appalachian emergency dental clinic, where patients receive symptomatic care, greater dental fear is associated with more negative beliefs about the dentist and fear of pain
- Additionally, pain appears to be a motivating factor for clinic visits more often for dentally fearful patients than for those not as fearful
- Over the long-term, lower levels of dental care-related fear and more positive beliefs about dental treatment are associated with asymptomatic dental treatment-seeking behavior in patients who have previously presented to an emergency clinic symptomatically
- Clearly, dental treatment-seeking patterns are impacted by a constellation of psychological factors
- There exist few longitudinal studies addressing these phenomena and related health outcomes; As complete conceptualizations of oral health behavior still are being elucidated, studies such as this one provide important information about critical psychosocial barriers to the utilization of dental treatment
- Results from this and similar studies have the potential to inform interventions aimed at changing dental treatment seeking, specifically, and health behavior, generally

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