Why Don't Dental Patients Show Up for Appointments?

A Model for Understanding the Implications of Fear on Treatment-Seeking

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Significance

• Understanding how the components of dental care-related fear and anxiety affect emergency treatment seeking is of clinical significance and utility

• Ultimate goal: Improve dental treatment utilization
Treatment-Seeking Behavior

• Asymptomatic
  – Patients visit regularly for prophylaxes or other preventive treatment

• Symptomatic
  – Patients visit only in cases of severe pain or dysfunction (i.e., an emergency)
Why Emergency Patients?

• Perhaps could be “converted” to seek treatment asymptomatically

• A population that likely could benefit from dental clinic-based interventions for fear/anxiety
Dental Care-Related Fear and Anxiety

• Dental care-related **fear** is an in-the-moment response to the (threatening) dental situation

• Dental care-related **anxiety** is the apprehension that occurs in anticipation of the dental situation
Prevalence and Impact on Treatment-Seeking Behavior

• Between 10 and 20 percent of Americans report a high level of dental care-related anxiety (Smith & Heaton, 2003)

• Dental care-related anxiety associated with treatment avoidance (Doerr et al., 1998; Moore et al., 1996)
Barriers to Regular Oral Health Care

• Structural Barriers
  – Impact *access*
  – E.g., geographical limitations, low socioeconomic status, limited provider availability

• Psychosocial Barriers
  – Impact *utilization*
  – E.g., negative beliefs about the dentist, poor oral health values, dental care-related fear/anxiety
Specific Aims and Hypotheses

• Aim 1: To examine the relations among dental beliefs, dental care-related fears, and fear of pain in a symptomatic treatment-seeking population

• Hypothesis 1: Fear of pain and negative dental beliefs are positively correlated with dental care-related fears
Specific Aims and Hypotheses

• **Aim 2:** To determine the impact and mechanism of the role of dental care-related fear and anxiety in long-term utilization of an emergency dental clinic

  – Hypothesis 2: Dental care-related fear (or a correlate) is predictive of a greater number of extractions over the long term

  – Hypothesis 3: Dental care-related fear (or a correlate) is associated with less asymptomatic treatment-seeking behavior
Design

• Retrospective cohort design
  – April, 2001 - July, 2001: Initial contact with patients
  – Followed patient behavior for 10 years by way of chart review

• Both components of study approved by the West Virginia University IRB
Participants

• 82 adults who presented to the Emergency Clinic at the West Virginia University School of Dentistry

  – Average age: 35.5 years ($SD = 14.6$)
  – Average number years of education: 12.4 ($SD = 1.9$)
  – Equal number males and females
Self-Report Measures

• Dental Fear Survey (DFS)
  – 20-item, self-report measure of anxious reactions to dental situations

• Fear of Pain Questionnaire (FPQ-III)
  – 30-item, self-report measure of pain-related fear

• Getz Dental Beliefs Scale (DBS)
  – 28-item, self-report measure of feelings and reactions to dental work and dentistry
Chart Review

• Completed for each randomly chosen participant for whom a dental chart exists
  – Top 5% and bottom 50% Dental Fear Survey scores
  – Sex-balanced

• Recorded: Number of visits over the 10-year period, procedures performed at each visit
Results – Patients

• Patient Characteristics
  – Average number of visits: 5.5 ($SD = 8.8$)
  – Average number of missed appointments: .45 ($SD = 1.3$)
  – How many patients return to the SOD clinic? 61%
  – Average number of restorations: 1.4 ($SD = 4.5$)
  – Average number of extractions: 3.2 ($SD = 5.4$)
  – Average number of cleanings: 0.3 ($SD = .9$)
Results – Psychosocial Barriers to Care

Dental Care-Related Fear

Fear of Pain

Negative Beliefs about Dentistry

$r = .52$

$r = .63$

$r = .48$

All correlations significant at $p < .001$
Results - Extractions

- No significant differences in number of cleanings, restorations, or missed appointments across dental fear and fear of pain groups

\[ t(84) = 2.07, p = .04 \]
Results - Extractions

Number of Extractions

- Dental Care-Related Fear
  - Fear of Pain
  - Negative Beliefs about Dentistry
### Results - Extractions

*Regression model: What predicts number of extractions?*

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Unstandardized Regression Coefficient (B)</th>
<th>Standard Error</th>
<th>Standardized Regression Coefficient (β)</th>
<th>Significance Value (p)</th>
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<td>Sex</td>
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Results – Preventive Care

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<th>Fear of Pain Questionnaire Score</th>
<th>Dental Fear Survey Score</th>
<th>Dental Beliefs Survey Score</th>
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<tr>
<td>Symptomatic only</td>
<td>$M = 23.85$ ($SD = 7.72$)</td>
<td>$M = 54.41$ ($SD = 26.40$)</td>
<td>$M = 58.41$ ($SD = 27.21$)</td>
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<td>Asymptomatic</td>
<td>$M = 21.11$ ($SD = 6.27$)</td>
<td>$M = 38.44$ ($SD = 20.57$)</td>
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<td>$t(80) = 1.02$, $p = .15$</td>
<td>$t(80) = 1.75$, $p = .04$</td>
<td>$t(80) = 2.51$, $p = .005$</td>
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</tbody>
</table>
Conclusions

• Hypothesis 1: Fear of pain and negative dental beliefs are positively correlated with dental care-related fears. **SUPPORTED.**

• Hypothesis 2: Dental care-related fear (or a correlate) is predictive of a greater number of extractions over the long term. **Evidence for the opposite.**

• Hypothesis 3: Dental care-related fear (or a correlate) is associated with less asymptomatic treatment-seeking behavior. **SUPPORTED.**
A Model for Understanding Emergency Treatment-Seeking

- Financial Limitations
- Geographic Limitations
- Structural Barriers to Treatment

Beliefs about Dental Treatment
- Fear of Pain

Oral Health Values
- Dental Care-Related Fear

Psychosocial Barriers to Treatment

Treatment-Seeking Patterns
Limitations

• Data are not available for dental visits outside of the School of Dentistry clinic
  – Are patients receiving regular asymptomatic care? Emergency/symptomatic care elsewhere?

• Chart entries are not uniform across visits

• Difficult to account for other important variables (e.g., SES, oral health values, geographical limitations to access)
Final Thoughts

• Understanding why symptomatic treatment-seeking patients access care only in emergency situations is important
  – Oral health professionals may have an ideal opportunity to intervene
  – Interventions could:
    • Reduce “vicious cycle” of dental fear/avoidance
    • Improve health outcomes
    • Improve patient quality of life
    • Reduce financial burden of costly procedures