Multi-dimensionality of oral health in dentate adults

Abstract

Background. An understanding of the validity and usefulness of self-reported measures (as distinct from clinically-determined measures) of oral health is emerging. These self-reported measures include self-rated oral health (SROH). Objectives. Three objectives were to: (1) describe SROH in dentate adults; (2) quantify associations between SROH and other measures of oral health (oral disease and tissue damage, pain and discomfort, functional limitation, and disadvantage); and (3) assess the construct validity of a model of oral health proposed herein. Methods. The Florida Dental Care Study is a longitudinal study of oral health, which included at baseline 873 subjects who had at least 1 tooth, were 45 years or older, and who participated for an interview and clinical examination. Results. The prevalence of SROH decrements was substantial; about one-fourth of subjects reported their oral health as only fair or poor. Bivariate and multivariate results provided consistent evidence of the construct validity of the proposed model of oral health. Additionally, the salience of one measure of dental appearance suggests that persons may use esthetic cues when rating their oral health. Conclusions. The proposed multi-dimensional model of oral health has construct validity. SROH is affected by oral disease and tissue damage, oral pain and discomfort, oral functional limitation, and oral disadvantage. These self-reported measures and the proposed model should provide useful information for dental care effectiveness research. As general health status has been disaggregated into the "physical" and the "mental", an additional separation into the "oral" aspects of health seems warranted.

Taking dental self-care to the extreme: dental self-extractions in the Florida Dental Care Study

Abstract

Objectives. A common response to health symptoms is to treat oneself in lieu of or prior to seeking formal health care. Among the more extreme forms of dental self-care is dental self-extraction. To our knowledge, no study of the incidence of this behavior has been conducted. The objective of this study was to determine if one form of dental self-care, dental self-extraction, is a real phenomenon, and if so, to determine its incidence. Methods. The Florida Dental Care Study is a longitudinal study of changes in oral health, whose subjects participated for an interview and clinical examination at baseline and 24 months after baseline. Results. Of the 739 persons who participated through 24 months, 176 lost one or more teeth. Of these 176 persons, 13 (7%) extracted one or more of their own teeth. The clinical status at baseline of the self-extracted teeth was consistent with the ability to self-extract. Conclusion. The phenomenon of dental self-extraction is real and is not limited to residents of developing nations or geographically isolated areas. Because of the potential for prolonged bleeding or bacterial endocarditis in certain population groups, community health clinicians and officials should be cognizant of this behavior.


Abstract
Objectives. Evaluation for changes in behavior due to knowledge by research participants that behavior is being observed (also referred to as a Hawthorne effect or reactivity) has received little attention in the dental literature. The Florida Dental Care Study, a prospective, non-randomized, longitudinal study of oral health outcomes, provides some inferential power to evaluate for an effect on dental care use due to participants’ knowledge that this behavior was being observed. The purpose of this paper is to document that an observation effect can occur in dental studies, and to estimate its magnitude among four groups that were defined by their typical approach to dental care as stated at baseline (consistent regular attenders (CRAs), inconsistent regular attenders (IRAs), consistent problem-oriented attenders (CPOAs), and inconsistent problem-oriented attenders (IPOAs)). Methods. At baseline, 873 respondents with at least one natural tooth and who were 45 years of age or older participated for an interview and clinical dental examination. Dental care use, in general, and check-up use, in particular, were then queried at 6-month intervals for 24 months. Results. Dental care use, in general, and check-up use, in particular, varied across time points and across the four sub-groups of the sample. There was some stimulation in dental care use for the sample overall, but by the 18-to-24-month period, use had returned to baseline levels. In a direction opposite from that hypothesized, results from the CRAs suggested decreased use of dental care over the course of the 24 months of observation. No consistent pattern was evident for the IRAs, CPOAs, or IPOAs. Conclusions. An observation effect was evident, but was modest in magnitude and differed within and between sub-groups of the sample. While self-selection into dental care user groups is an expected and desirable feature of this design, the size of the user/non-user groups was affected for some sub-groups. We conclude that dental care studies with the potential for an observation effect should evaluate for this effect by distinguishing sub-groups of the sample based on their propensity (as stated at baseline) to use dental care. These differential effects across sub-groups should be taken into account as inferences are made.

Determinants of dental care use in dentate adults: six-monthly use during a 24-month period in the Florida Dental Care Study [NAT, this is the correct name; please re-name on the publication list]

Abstract

Objective: The objective of this study is to describe for a diverse sample of dentate adults the incidence of dental care use and predisposing, enabling, and need correlates of that use. Methods: The Florida Dental Care Study (FDACS) is a prospective longitudinal cohort study of persons who at baseline had at least 1 natural tooth, were 45 years or older, and who resided in north Florida, USA. An in-person interview and clinical dental examination were conducted at baseline and 24 months after baseline, with 6-monthly telephone interviews between those times. Results: Seventy-seven percent of subjects reported one or more dental visits during the 24 months of follow-up. Six-monthly use ranged from 46% to 55%. Incident perceived need for care and certain incident self-reported oral signs and symptoms were strongly predictive of incident dental care use. Decrements in oral functional limitation, oral disadvantage, and self-rated oral health were predictive of less care bivariately, but were not salient in a multivariate model, with two notable exceptions: two measures related to esthetics. Conclusions: Certain measures of need (perceived need and specific self-reported signs and symptoms) were important predictors of incident dental care. However, persons with need as determined by direct clinical examination and persons with need as determined by self-reported decrements in the more distal measures of oral health (oral functional limitation, oral disadvantage, and self-rated oral health) were actually less likely to seek dental care. The salience of esthetics in predicting use is consistent with cross-sectional findings that dental esthetic cues are important to oral "health". Typical approach to care, dental attitudes, ability to pay for care, race, and sex were also important for understanding incident dental care use.

Dental health attitudes among dentate Black and White adults
Abstract

Background. Blacks and poor persons share a greater burden of oral disease and are less likely to seek dental care on a regular basis. The role of dental attitudes and knowledge of services on this circumstance is unclear. Our purpose was to quantify group differences in dental attitudes and knowledge of services, and relate them to regularity of dental care use. Methods. As part of the baseline phase of The Florida Dental Care Study, a longitudinal study of oral health, 873 respondents (Rs) who had at least one tooth and who were 45 years or older participated for an interview and a clinical dental examination. Dental care use, seven dental attitudinal constructs, and knowledge of dental services were queried. Results. Forty-five percent of Rs reported going to a dentist only when they have a problem, and 17% of Rs had not seen a dentist in more than 5 years. Ten percent of Rs reported that they had had at least one permanent tooth removed by someone other than a dentist (typically, the R him- or herself). Blacks and poor persons had more negative attitudes toward dental care and dental health and were less knowledgeable of dental services. Multivariate analyses suggested that dental attitudes were important to understanding the use of dental care services for this diverse group of adults, and that race and poverty contributed independently to dental care use even with dental attitudes taken into account. Conclusions. Dental attitudes contribute to race and poverty differences in dental care use among adults. The persistence of race and poverty effects with attitudes taken into account suggests that additional explanatory factors contribute as well. These differences may contribute to more prevalent and severe oral health decrements among the same adults who are also more likely to suffer from other health decrements.

Coronal caries, root fragments, and restoration and cusp fractures in U.S. adults

Abstract

The Florida Dental Care Study is a longitudinal study of changes in oral health that included at baseline 873 subjects (Ss) who had at least 1 tooth, were 45 years or older, and participated for an interview and examination. Forty-five percent of Ss had active coronal caries; 94% of the coronal carious surfaces were primary decay, and only 6% were secondary/recurrent. Ten percent of Ss had 1 or more root fragments, 16% of Ss had 1 or more teeth with restoration fractures, and 14% of Ss had 1 or more teeth with cusp fractures. Blacks, poor persons, and irregular attenders had more caries, root fragments, and cusp fractures, even though they had significantly fewer teeth. Blacks, poor persons, and irregular attenders were not at increased risk for restoration fractures, probably because fractures were associated with dental care use. These findings regarding caries and restorative treatment needs are consistent with a substantial burden in adult high-risk groups, and are relevant for dental primary health care policy.


Abstract - Oral disadvantage can be defined as the avoidance of certain daily activities because of decrements in oral health. These decrements include oral disease and tissue damage, pain, and functional limitation.

The Florida Dental Care Study (FDCS) is a longitudinal study of changes in oral health, which included at baseline 873 subjects who had at least 1 tooth, were 45 years or older, and who participated for an interview and clinical examination. Three objectives of the FDCS are: (1) to describe selected psychometric properties of the measurement of oral disadvantage; (2) to describe
oral disadvantage in a diverse sample of dentate adults; and (3) to describe the relationship between disadvantage and other aspects of oral health, such as disease/tissue damage, pain, and functional limitation.

The prevalence of oral disadvantage within the previous six months, using eight self-reported measures, ranged from 5% to 25%, depending upon the measure. Factor analysis suggested that oral disadvantage is best described as three factors; disadvantage due to: (1) oral disease/tissue damage, (2) oral pain, and (3) oral functional limitation. Irregular dental attenders, poor persons, and Blacks had the highest prevalence of oral disadvantage. Clinical measures of oral disease/tissue damage, self-reported measures of oral disease/tissue damage, oral pain, and oral functional limitation were strongly associated with the presence of oral disadvantage.

In multivariate analyses that accounted for differences in clinical measures of disease/tissue damage, self-reported disease/tissue damage, oral pain, and oral functional limitation, females were more likely to report disadvantage due to disease/tissue damage, and middle-aged persons and irregular dental attenders were more likely to report oral disadvantage due to pain. In these same regressions, differences in disadvantage due to race, poverty status, socioeconomic status, and rural/urban area of residence were not evident. These results have implications regarding the use of oral disadvantage to assess the long-term effectiveness of dental care.

Evaluation of bias and logistics in a survey of adults at increased risk for oral health decrements

Evaluation of bias and logistics in a survey of adults at increased risk for oral health decrements

Abstract

Purpose: Designing research to include sufficient respondents (Rs) in groups at the highest risk for oral health decrements can present unique challenges. Our purpose was to evaluate bias and logistics in this survey of adults at increased risk for oral health decrements. Methods: We used a telephone methodology that employed both listed numbers and random digit dialing to identify dentate persons 45 years old or older, and to over-sample Blacks, poor persons, and residents of nonmetropolitan counties. At a second stage, a sub-sample sample of the Rs to the initial telephone screening was selected for further study, which consisted of a baseline in-person interview and a clinical examination. We assessed bias due to: (1) limiting the sample to households (HHs) with telephones, (2) using predominately listed numbers instead of random digit dialing, and (3) nonresponse at two stages of data collection. Results: While this approach apparently created some biases in the sample, they were small in magnitude. Specifically, limiting the sample to HHs with telephones biased the sample overall toward more females, toward larger HHs, and toward fewer functionally-impaired persons. Using predominately listed numbers led to a modest bias toward selection of persons more likely to be younger, healthier, female, have had a recent dental visit, and reside in smaller HHs. Blacks who were selected randomly at a second stage were more likely to participate in baseline data gathering than their White counterparts. Comparisons of the obtained data with data from recent national data suggest that this methodology for sampling high-risk groups did not substantively bias the sample with respect to two important dental parameters, edentulism prevalence and dental care use, nor were conclusions about multivariate associations with dental care recency substantively affected. Conclusion: This method of sampling persons at high risk for oral health decrements resulted in only modest bias with respect to the population of interest.

Satisfaction with chewing ability in a diverse sample of dentate adults
Abstract

Background. Although measurement of oral health status to date has largely been limited to clinical measures of disease, an understanding of the validity of self-reported measures of oral health is emerging. These self-reported measures include subjects' reports of satisfaction with chewing ability.

Methods. The Florida Dental Care Study (FDCS) is a longitudinal study of changes in oral health, which included at baseline 873 subjects who had at least 1 tooth, were 45 years or older, and who participated for an interview and clinical examination. Two objectives of the FDCS were to: (1) describe satisfaction with chewing ability in a diverse sample of dentate adults; (2) quantify the associations between satisfaction with chewing ability and other measures of oral health.

Results. Approximately 16% of subjects reported that they were dissatisfied or very dissatisfied with their chewing ability. Bivariate and multivariate results provided consistent evidence of the construct validity of a proposed multi-dimensional model of satisfaction with chewing ability. Multiple regression analysis suggested that dissatisfaction with chewing ability was independently associated with 12 specific clinical and self-reported measures of oral disease/tissue damage, pain, functional limitation, and disadvantage.

Conclusion. The self-reported measures of oral health and the proposed model of satisfaction with chewing ability improve our understanding of this important oral health outcome in diverse population groups.

Validity of self-reported tooth counts during a telephone screening interview

Abstract

Purpose: Telephone screening has become a common method in health services research to identify efficiently persons in specific populations of interest. Although eligibility in telephone-based health surveys focuses typically on sociodemographic factors, the presence and number of remaining teeth is clearly relevant for dental health studies. In this research, we used a large-scale telephone screening survey to assess: 1) the effectiveness of the telephone method in gathering tooth count information by measuring response rate (cooperation) to specific questions, and 2) the validity of subjects' reports of the number of remaining natural teeth.

Methods: We used a telephone screening methodology to identify dentate persons (at least one natural tooth remaining) who were 45 years old or older and resided in one of 4 counties of north Florida. At a second stage, a sample of the telephone screening participants was selected for further study, which consisted of a baseline in-person interview and a clinical examination. We compared the number of remaining teeth reported during the telephone interview with the number determined at baseline examination.

Results: The telephone method was effective at gathering tooth count information, although response rates varied with the level of specificity required. Almost all subjects reported the number of teeth at least at the nominal and ordinal levels, but less than three-fourths reported the number at the interval level. When the unit of analysis was the overall sample, self-reported number of teeth was a valid measure of the true number. When the unit of analysis was the individual subject, validity was associated with certain clinical and sociodemographic factors.

Conclusions: When the unit of analysis is the overall sample, these results suggest that self-reported tooth counts during a telephone interview are sufficiently valid to meet all but the most stringent data requirements. When the unit of analysis is the individual subject, this may not be the case, depending upon the degree of specificity required and subject characteristics. These findings have implications for dental survey research conducted by telephone.