

Use of Communication Techniques by Dentists in the United States: Results of a National Survey

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Background

- Communication between dental providers and patients is an important part of providing quality dental care and achieving good outcomes.
- The high prevalence of low-literacy in the United States suggests that many patients experience a miss-match between their literacy skills and the information demands that dental care places on them.
- Limited dental health literacy is associated with: (1) less dental health knowledge, (2) fewer dental visits, (3) more severe dental caries, and (4) poorer oral health-related quality of life.
- Little is known about communication techniques used by dentists or dental team members to meet the needs of patients.

Study Aims

1. Determine techniques used by dentists to ensure effective patient communication and understanding.
2. Identify the variation in routine use of these techniques according to factors that might be targeted with interventions.

Methods

Design

- Cross-sectional survey of a random sample of all professionally active dentists in the United States

Sample Selection

- Selected from the ADA master file (n=179,594)
- Primary or secondary occupation was private practice, full-time or part-time

Questionnaire Development

- 86-item, self-completed questionnaire drafted by the ADA National Advisory Committee on Health Literacy in Dentistry
- 18 communication items, 5-point Likert scale responses
“During a typical week, how often do you use the following?”
(never, rarely, occasionally, most of the time, always)
- 5 domains based on AMA recommendations and Schwartzberg et al.
 - Use easy to understand language (n=5) [basic techniques]
 - Use Teach Back method (n=2) [basic techniques]
 - Use patient-friendly materials and aids (n=4)
 - Provide help in understanding information (n=5)
 - Make practice environment patient friendly (n=2)

Data Collection

- Questionnaires mailed to sampled dentists in December 2008
- 2 mail follow-ups; telephone follow-up April 2009
- Managed by the ADA Survey Center

Outcome variable

- Count of dentists' routine use (most of the time or always vs. other) of all 18 techniques or 7 basic techniques

Predictors variables

- Health literacy awareness (yes, no)
- Training in communication techniques (yes, no)
- Outcome expectancy (18-item scale: low, medium, high)
- Barriers to use of techniques (lack of time, awkwardness, can't simplify communication any more, patient language, patient non-adherence)
- Practice-level change to ensure clear information to patients (yes, no)
- Provider characteristics (age, race, sex, U.S. born, U.S. trained)
- Practice traits (patient demographics, specialty, primary occupation, setting)

Analysis Strategy

1. Percent distribution of routine use
2. Comparison of mean numbers of techniques routinely used according to the predictor variables using ANOVA
3. Association of predictor variables with the number of techniques used routinely confirmed through the use of OLS regression models

Results

Table 1: Response Rates

Questionnaires distributed	6,300
Questionnaires not delivered	292
Effective sample size	6,008
Questionnaires returned	2,010
Response rate	33.4%
Analysis sample size (exclude students / dentists not in practice)	2,000
Questionnaires with non-missing items	87.1%

Figure 1. Percent Distribution of Dentists by Number of Techniques Used Routinely

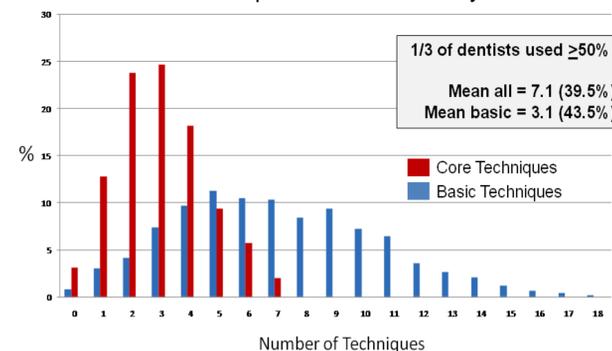


Figure 2: Percent of Dentists Routinely Using Each Technique

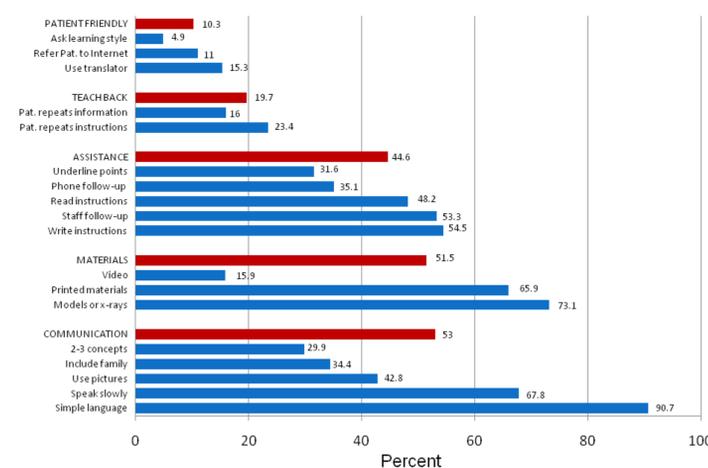


Table 2: Percent Difference in Mean Number of Techniques Used Routinely, by Provider Characteristics

Variable	Category	% Difference	P-value
Age (vs. 26-35 yrs)	36-45 yrs	21.5	
	46-55 yrs	11.9	
	56-65 yrs	4.3	
	>65 yrs	6.5	<.001
Race (vs. White)	African American	24.1	
	Hispanic	13.4	
	Asian	17.3	
	Other	35.9	<.001
Sex	Female vs. male ^a	9.8	.001
Country of birth	Outside U.S. vs. inside	26.1	<.001

^a Not significant in OLS regression analysis

Table 3: Percent Difference in Mean Number of Techniques Used Routinely, by Literacy Variables

Variable	Comparison	% Difference	P-value
Awareness	Yes vs. no	13.8	<.001
Training	Yes vs. no	18.2	<.001
Outcome expectancy (vs. low)	Medium	20.5	
	High	50.2	<.001
Barriers [†]	Yes vs. no	-9.4	<.001
Practice-level change	Yes vs. no	39.3	<.001

[†] “Lack of time” and “belief that can't provide information anymore simply” were barriers found to be significant in OLS regression.

Table 4: Mean Number of Techniques Used Routinely, by Specialty Type

Specialty	Sample Size	Mean No. Techniques
Oral surgery	40	9.7
Periodontics	56	9.2
Endodontics	34	8.1
Prosthodontics	19	7.5
Orthodontics	79	7.4
General dentistry	1,454	6.9
Pediatric dentistry	41	6.5

Notes:
(1) Specialties listed according to descending order for 18 techniques.
(2) Public health and pathology not listed because of small sample sizes.
(3) ANOVA P-Value = <.001.

Limitations

1. Validity of the respondents' assessment of communication is unknown
2. Information might suffer from reporting biases
3. Non-response bias could influenced findings (RR=34%)
4. Lack of information on the quality of communication

Conclusions

1. Ideal number of techniques that should be used is unknown
2. Number of communication techniques used varies greatly
3. Low use of techniques commonly recommended by experts
 - Dentists use an average of 3 out of 7 basic techniques (43%)
 - One in five dentists routinely use Teach Back method (20%)
4. Use of techniques similar to physicians, nurses and pharmacists

Implications of Study

1. The dental profession should develop and disseminate communication guidelines and toolkits for practicing oral health professionals.
2. Advancement of health literacy in dentistry requires a multidisciplinary research agenda to determine the effectiveness of various communication techniques in the dental setting.
3. In the interim ensure that graduating dental professionals and those already in practice can and are meeting the information needs of all patients.

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