Benchmarking the clinical prosthetic dental literature on MEDLINE

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Statement of problem. The utility of evidence-based clinical prosthetic dental decision making is, in part, predicated on the availability of high-quality clinical trials and the use of current best evidence. With literature or outcomes continually evolving, it is difficult to know how much information is available, how fast it changes, or where it is located.

Purpose. This study identified and quantified the availability of high-quality prosthetic dental clinical trials, determined the dynamics of literature increase, and identified the location of relevant literature published within a specific decade.

Material and methods. A search strategy based on the Medical Subject Headings (MeSH) vocabulary for prosthetic dentistry was developed to examine MEDLINE with use of the Ovid Web Gateway search engine between the years 1990-1999. Specific and sensitive methodologic search filters identified 4 categories of information: etiology, diagnosis, therapy, and prognosis. The identified studies were limited to human subjects and to articles written in English. The results were subdivided by year to identify trends and location of the literature. This evaluation did not include the following: (1) other databases or languages or (2) an evaluation of the validity or clinical applicability of the literature. The first factor would increase the estimated number of relevant articles, whereas the second factor would decrease it.

Results. Between 1990 and 1999, MEDLINE identified 10,258 articles published in English on human prosthodontic issues. When subdivided by clinical category, the number of articles per year (mean ± SD) for specific and sensitive searches, respectively, was as follows: etiology, 10 ± 6 and 95 ± 27; diagnosis, 11 ± 5 and 77 ± 21; therapy, 6 ± 2 and 153 ± 52; and prognosis, 13 ± 6 and 91 ± 27. For sensitive searches, this amounted to approximately 416 articles per year. The time-course analysis indicated that the number of articles in each category increased by approximately 7% per year. The articles were published in more than 60 different journals: approximately 50% of the articles were published in 14 journals, whereas the remaining articles were published in 46 journals.

Conclusion. There appears to be substantial clinical prosthetic dental literature upon which to base clinical decisions. With the sensitive search strategy used as an estimate, to stay current, one would need to read and absorb approximately 8 articles per week, 52 weeks per year, across 60 different journals. Increases in the volume of literature each year make access even more difficult. These trends suggest the need for computer-based clinical knowledge systems. (J Prosthet Dent 2002;88:533-41.)

CLINICAL IMPLICATIONS

The large and increasing volume of clinical literature on therapy in comparison to prognosis, for example, suggests that the dental profession may be providing a greater variety of treatment options for patients than previously available. Conversely, this imbalance also suggests that the efficacy of care is not being documented. To stay current and make informed clinical decisions when faced with an onslaught of information, dental professionals need evidence-based knowledge-base systems that can provide real-time clinical decision support.

With increasing emphasis on the need for evidence-based clinical decision making,[1] attention is being paid to the availability of high-quality clinical trials.[2,3] Access to computer-based communication networks and online, critically appraised medical information may improve clinical decision making by increasing the availability of relevant information.[4,5] One method for assessing information availability is *bibliometric analysis*, the use of statistical methods to analyze a body of literature to reveal historical development.[6] Bibliometric analysis has been used by the US National Academy of

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Science to evaluate research programs[7] and by others to evaluate medical progress in cardiology,[8] audiology,[9] mental health,[10] epilepsy,[11] emergency medicine,[12] medical diagnosis,[13] allied health,[14] arthritis,[15] endodontics,[16] and orthodontics.[17] Given that the evidence available for dental care may be significantly less than that available for medical care,[18] the prosthetic dental literature merits examination.

The objectives of the current study were to develop and implement MEDLINE search strategies that would access the prosthetic dental literature, to estimate the availability of literature that one could potentially use for clinical decision making, and to examine dynamic trends in literature publication. Of particular interest was the availability of articles on etiology, diagnosis, therapy, and prognosis.

MATERIAL AND METHODS

A literature search that used the Ovid Web Gateway Internet interface (Ovid Technologies Inc, New York, N.Y.) for MEDLINE was developed, and the Medical Subject Heading (MeSH) vocabulary in prosthetic dentistry was applied. Table I presents the search strategy used to identify and quantify the prosthetic dental literature on MEDLINE from 1966 to the third week of May 2000. To limit the topics to prosthodontics, several areas that could appear in other dental specialties were excluded. For example, "dental implants" and "malocclusion" are overlapping topics in multiple dental specialties. The search then was limited to studies that included human participants and were published in English.

Sensitive and specific methodologic filters were used to identify high-quality articles in 4 categories of information: etiology, diagnosis, therapy, and prognosis.[19] The search terms used for filters are listed in Table II. As used here, the term *sensitive search* indicates a search strategy that retrieved the largest number of relevant articles but also included some irrelevant ones. The term *specific search* indicates a search strategy that identified a small number of the most relevant articles but also excluded some relevant articles and most irrelevant articles. The search results were limited to "humans" and "English" to identify clinically relevant articles. Finally, the search results were subdivided by year from 1990 to 1999 to identify current trends and then by journal to determine the total and mean number of clinically relevant articles published per year per journal.

The data obtained from the literature searches in each category were analyzed with InStat 2.01 for Macintosh (Graphpad Software Inc, San Diego, Calif.). One-way analysis of variance (ANOVA) was performed, with Tukey-Kramer corrections for multiple comparisons, to compare the sensitive and specific search strategies for

Table I. Prosthodontic terms included in MeSH headings

Acid etching, dental
Bis-GMA
Cermet cement
Composite resins
Crown lengthening
Crowns
Dental abutments
Dental amalgam
Dental bonding
Dental casting technique
Dental cavity lining
Dental cavity preparation
Dental cements
Dental clasps
Dental prosthesis
Dental prosthesis retention
Dental restoration failure
Dental restoration, permanent
Dental restoration, temporary
Dental veneers
Dentin-bonding agents
Dentistry, operative
Dentures
Enamel microabrasion
Esthetics, dental
Glass ionomer cements
Inlays
Marginal adaptation
Palatal obturators
Polycarboxylate cement
Post-core technique
Prosthodontics
Resin cements
Silicate cement
Tooth, artificial
Tooth bleaching
Tooth preparation
Tooth preparation, prosthodontic
Zinc oxide–eugenol cement
Zinc phosphate cement
Denture bases
Denture design
Denture liners
Denture precision-attachment
Denture rebasing
Denture repair
Denture retention
Denture, complete
Denture, complete, immediate
Denture, complete, lower
Denture, complete, upper
Denture, overlay
Denture, partial
Denture, partial, fixed
Denture, partial, fixed, resin-bonded
Denture, partial, immediate
Denture, partial, removable
Denture, partial, temporary

Table II. Methodologic filters for searching[16]

Category	Sensitive search	Specific search
Etiology	1. exp cohort studies/ 2. exp risk/ 3. (odds and ratio$).tw. 4. (relative and risk).tw. 5. (case and control$).tw. 6. 1 or 2 or 3 or 4 or 5	1. case-control studies/ 2. cohort studies/ 3. 1 or 2
Diagnosis	1. exp sensitivity and specificity/ 2. sensitivity.tw. 3. di.fs. 4. du.fs. 5. specificity.tw. 6. 1 or 2 or 3 or 4 or 5	1. exp sensitivity and specificity/ 2. (predictive and value$).tw. 3. 1 or 2
Therapy	1. limit (step 15 in Table III) to randomized controlled trial 2. dt.fs. 3. tu.fs. 4. random$.tw. 5. 1 or 2 or 3 or 4	1. (double and blind$).tw. 2. placebo$.tw.
Prognosis	1. incidence/ 2. exp mortality/ 3. follow-up studies/ 4. mo.fs. 5. progno$.tw. 6. predict$.tw. 7. course.tw. 8. 1 or 2 or 3 or 4 or 5 or 6 or 7	1. prognosis/ 2. survival-analysis/ 3. 1 or 2

MEDLINE abbreviations: *.tw.* = textword search; *.fs.* = floating subheading (a subheading attached to any MeSH term in the record). Subheading abbreviations: *di* = diagnosis; *du* = diagnostic use; *dt* = drug therapy; *tu* = therapeutic use; *mo* = mortality. $ is a "wild card" and can stand for anything.

the 4 clinical topics ($P<.05$). Linear regression was used to determine differences over time.

RESULTS

Table III presents the results of the implemented search strategy. Between 1966 and the third week of May 2000, 64,596 articles on prosthetic dentistry were published. Of these, approximately 10,258 (16%) were published in English between 1990 and 1999 (inclusive) and addressed human beings. Figure 1 illustrates the relationship between the number of articles in each of the 4 clinical categories; Table IV provides quantitative data.

The mean number of articles per year identified by sensitive searches (n=416) was greater than the number identified by specific searches (n=40). The same was true for each clinical category (all $P<.0001$, ANOVA). The mean (± SD) number of articles per year for specific and sensitive searches, respectively, was as follows: etiology, 10 ± 6 and 95 ± 27; diagnosis, 11 ± 5 and 77 ± 21; therapy, 6 ± 2 and 153 ± 52; and prognosis, 13 ± 6 and 91 ± 27. Sensitive searches identified significantly more articles per year on therapy than on any of the other clinical categories investigated ($P<.01$, ANOVA). Similar numbers of etiology, diagnosis, and prognosis articles per year were found with sensitive searches ($P>.05$, ANOVA).

To better examine the evolution of information in the 4 clinical categories, the searches were stratified by publication year. Figures 2 through 5 illustrate the time course of etiology, diagnosis, therapy, and prognosis publications, respectively. The igures confirm the consistency with which sensitive searches identified more articles than specific searches. They also suggest that for all clinical categories, the number of articles generally increased each year for sensitive searches. Linear regression substantiated this impression, in that all of the slopes were positive: etiology, 6.0 (95% confidence interval [CI], 0.47-11.44); diagnosis, 4.9 (95% CI, 1.07-8.75); therapy, 13.6 (95% CI, 5.03-22.27); and prognosis, 5.7 (95% CI, 0.34-11.14). All slopes also were significantly different from 0 ($P<.05$). These slopes indicated that clinical information increased over the decade in question by an average of 7% ± 1.3% per year (95% CI, 4.9-9.0).

The dynamics of rapidly increasing literature in which therapy-related articles far exceed those on etiology, diagnosis, and prognosis raises an interesting question: Is the profession (1) increasing the number of therapies for

Table III. Prosthodontic search strategy based on MeSH headings (1966 to third week of May 2000)

Step No.	Search history	Results
1	exp prosthodontics/	57,649
2	exp dentistry, operative/	22,924
3	exp esthetics, dental/	5,043
4	exp composite resins/	9,673
5	acid etching, dental/or dental bonding/	8,828
6	exp dental cements/	8,876
7	dental cavity preparation/or tooth preparation/or tooth preparation, prosthodontic/	5,074
8	dental amalgam/	6,115
9	dental casting technique/	2,815
10	exp dental prosthesis/	52,234
11	dental porcelain/	4,842
12	exp metal ceramic alloys/	648
13	exp aluminum oxide/	4,480
14	exp dental materials/	44,233
15	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14	89,821
16	exp orthodontics/	23,738
17	cephalometry/	12,427
18	exp malocclusion/	19,085
19	exp periodontics	12,509
20	exp periodontal disease/	37,646
21	exp endodontics/	13,877
22	exp dental pulp diseases/	5,284
23	exp root canal filling materials/	2,945
24	exp dental implants/	3,961
25	exp dental implantation, endosseous/	5,657
26	exp dental implantation/	8,451
27	16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26	104,603
28	15 not 27	64,596

the same clinical problems or (2) refining the therapies? To preliminarily examine this issue by using sensitive searches, the relationship between the number of prognosis articles and the number of articles in the other clinical categories was determined. The rationale for this approach was the assumption that if the effectiveness of care were improving, the ratio of prognosis articles would increase. When examined over time, however, there was no significant change in the ratio of prognosis articles to the other clinical articles (0.28 ± 0.03; 95% CI, 0.26-0.30) (Fig. 6). There was also no significant change in the ratio of therapy articles to either etiology or diagnosis articles (0.88 ± 0.16; 95% CI, 0.76-0.99) (Fig. 7).

The initial search strategy was limited to English-language publications. To determine the relative volume of literature in English, publications in other languages for 1990 to 1999 were also examined (Fig. 8, Table V). On average, for both sensitive and specific searches, a small (7%-8%) but significant number of articles were published each year in languages other than English (sensitive = 32 ± 10, specific = 3.3 ± 1.2; both $P=.002$, Wilcoxon signed rank test).

The publication frequency was also examined. Table VI lists journals in which more than 10 clinical prosthetic dentistry articles were published between 1994 and 1999. The analysis indicated that the top 3 journals were *The Journal of Prosthetic Dentistry*, *American Journal of Dentistry*, and *Journal of Dentistry*. Interestingly, these journals accounted for only 5.5%, 5%, and 4.5%, respectively, of all publications. Fourteen journals accounted for 50% of the publications, with the remaining articles being published in 46 journals.

DISCUSSION

This study was conducted to identify and quantify the availability of prosthetic dental literature upon which clinical decisions could be made. The results indicated that between 1990 and 1999, a large number of potentially clinically relevant articles were published in prosthodontics, with articles on therapy significantly outnumbering those on etiology, diagnosis, or prognosis.

The implied results may be more interesting than the actual results. On average, between 40 (specific search) and 416 (sensitive search) articles addressing the etiology, diagnosis, therapy, and prognosis of human prosthodontics were published per year. If all of these publications had high clinical applicability, then the results suggest that one would need to read, digest, and imple-

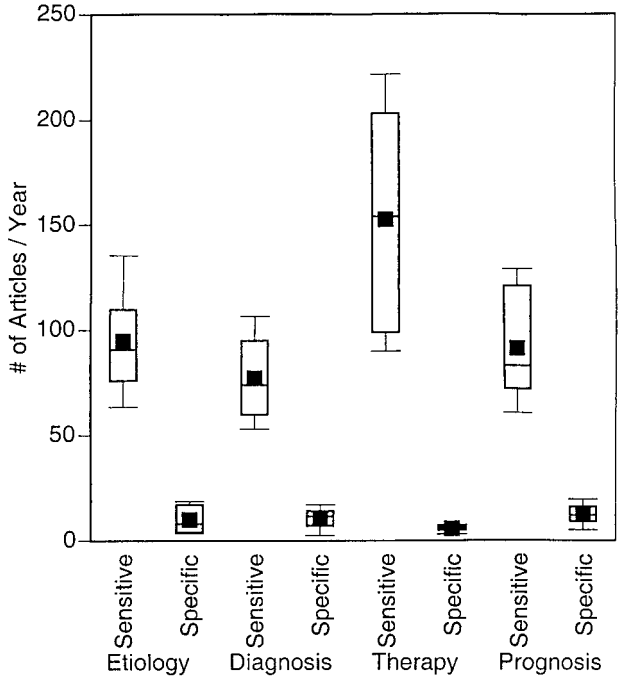

Fig. 1. Box plots indicate number of articles in each category between 1990 and 1999. *Squares* represent mean, and *horizontal lines* indicate 10th, 25th, 50th, 75th, and 90th percentiles. Sensitive searches identified more articles than specific searches. Significantly more articles were associated with the therapy category than with diagnosis, etiology, or prognosis categories.

Table IV. Number of articles per year from 1990 through 1999

Category	Specific search	Sensitive search
Etiology	10 ± 6	95 ± 27
Diagnosis	11 ± 5	77 ± 21
Therapy	6 ± 2	153 ± 52
Prognosis	13 ± 6	91 ± 27
Total	40 ± 19	416 ± 127

Data are given as mean ± SD. Sensitive searches identified significantly more articles than specific searches ($P < .0001$, ANOVA).

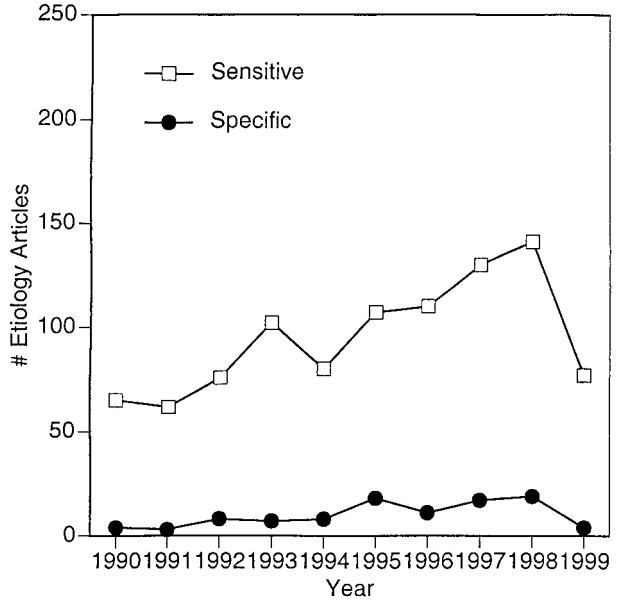

Fig. 2. Time course of etiology publications. For all years, the sensitive search identified more articles than the specific search, and the number of published etiology articles increased.

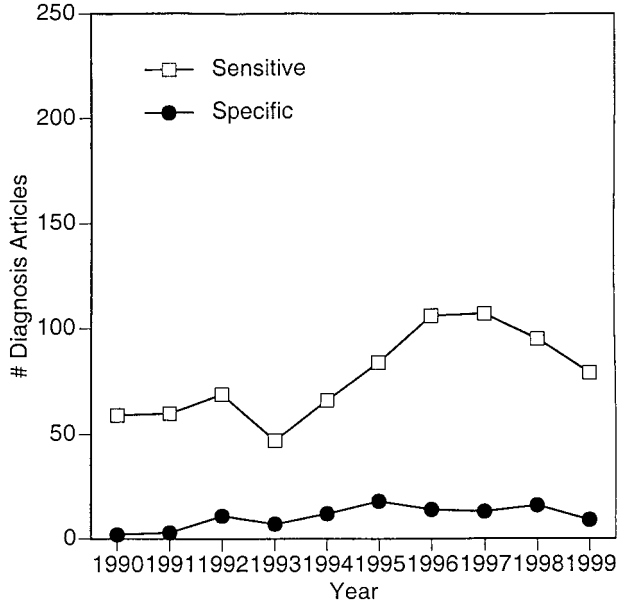

Fig. 3. Time course of diagnosis publications. For all years, the sensitive search identified more articles than the specific search, and the number of published diagnostic articles increased.

ment into clinical practice 1 to 8 articles per week, 52 weeks per year, to keep current. Given the dynamics, one could expect this number to continually increase by approximately 7% per year. The dissemination of 50% of the articles over 14 journals and the other 50% over 46 other journals makes access to this literature difficult. Further complicating the access problem is the fact that approximately 7% to 8% of the articles were published in languages other than English.

The time course of sensitive searches revealed an increasing emphasis on therapy over the other clinical areas (Figs. 2-5). For example, the number of therapy articles increased by more than 100% (from 85 to 204) between 1990 and 1998; the number of etiology, diagnosis, and prognosis articles increased by less than 60% during the same time period. The ratio of prognosis to the other clinical categories remained virtually unchanged. The dynamics of rapidly increasing clinical literature in which the ratio of prognosis articles does not change suggests that the profession may be providing a wider variety of therapeutic interventions. This trend

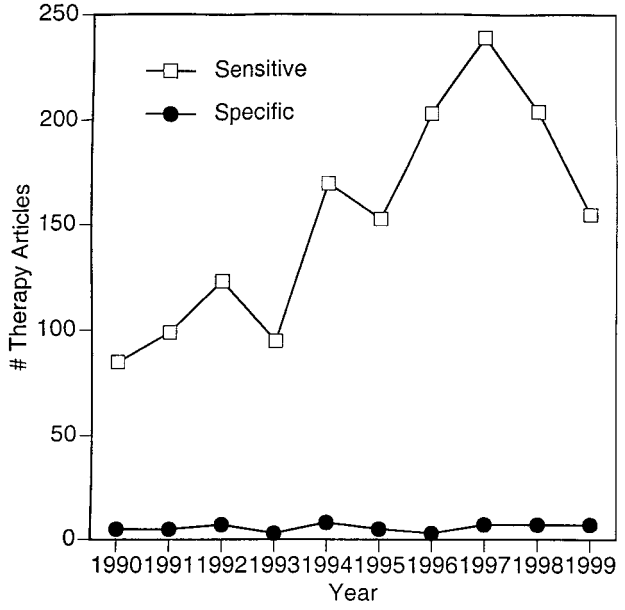

Fig. 4. Time course of therapy publications. For all years, the sensitive search identified more articles than the specific search, and the number of published therapy articles increased.

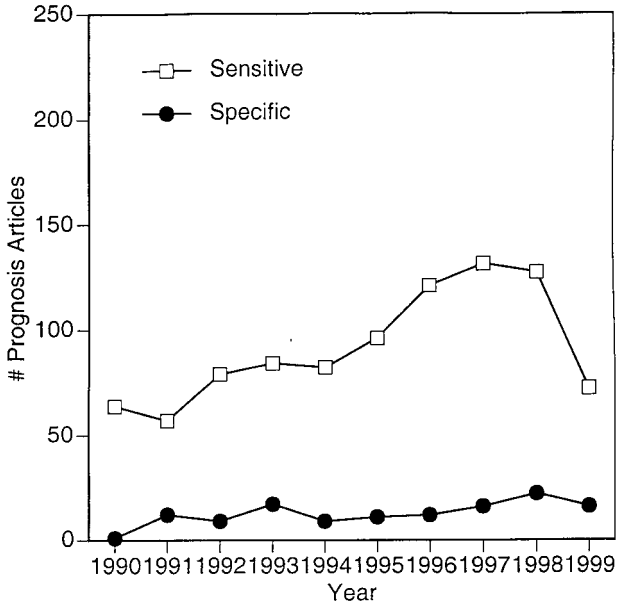

Fig. 5. Time course of prognosis publications. For all years, the sensitive search identified more articles than the specific search, and the number of published prognosis articles increased.

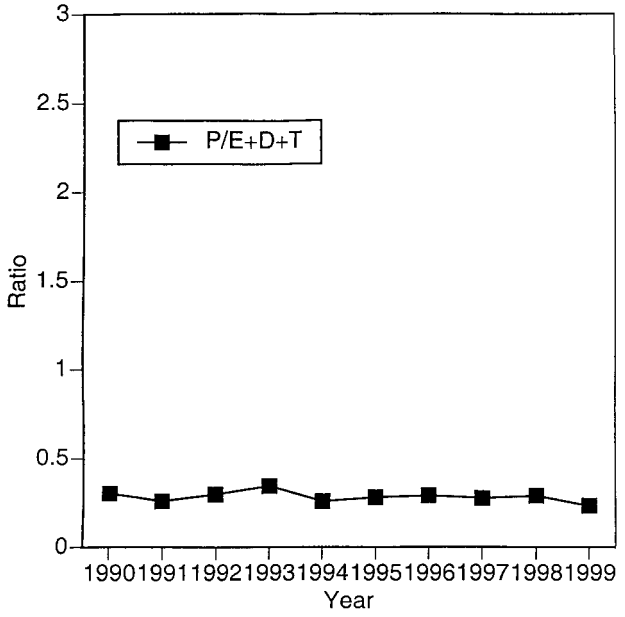

Fig. 6. Time course of relationship between number of prognosis *(P)* articles and number of etiology *(E),* diagnosis *(D),* and therapy *(T)* articles. There was no significant change in ratios.

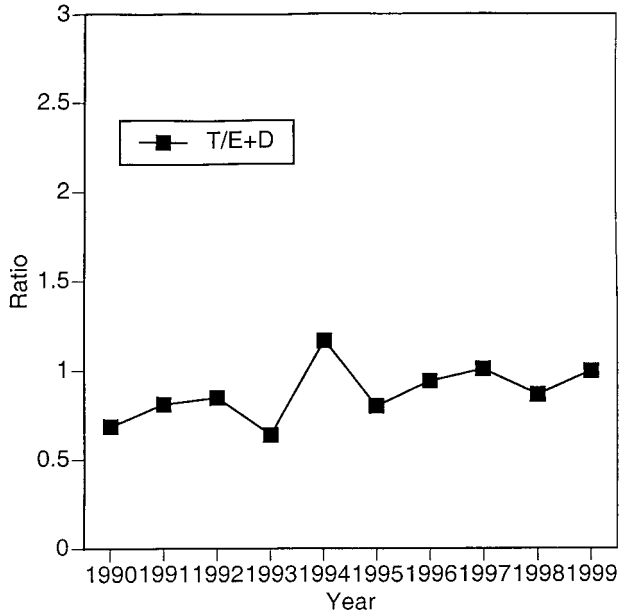

Fig. 7. Time course of relationship between number of therapy *(T)* articles and number of articles on either etiology *(E)* or diagnosis *(D).* There was no significant change in ratios.

can be viewed as a benefit to patients, but it has other implications as well. First, the results suggest that the profession may not be developing a consensus on optimal care. Second, without evidence demonstrating that these interventions provide more effective outcomes than those described previously, it is difficult to continue to justify an increasing variety of interventions. Third, for educational institutions, patients, and insurers, a lack of consensus on the optimization of care and improvements in prognosis could reduce the profession's credibility.

These possibilities suggest a need for the systematic implementation of computer-assisted, evidence-based

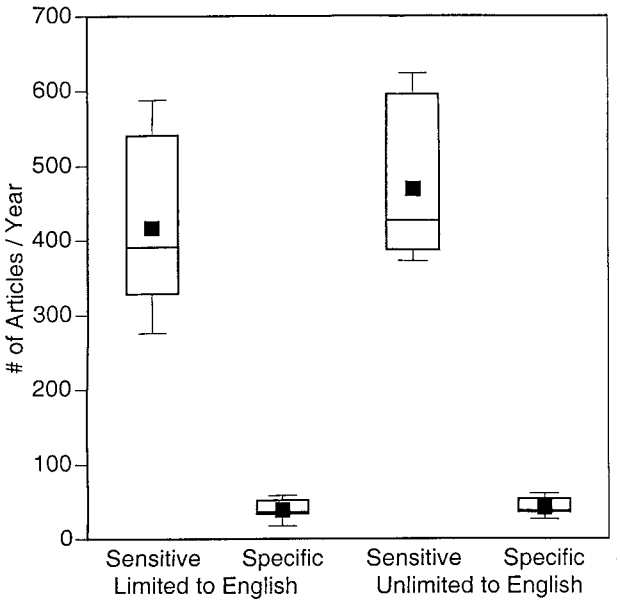

Fig. 8. Box plots indicate number of articles in searches limited and not limited to English between 1990 and 1999. *Squares* represent mean, and *horizontal lines* indicate 10th, 25th, 50th, 75th, and 90th percentiles. Sensitive searches identified more articles than specific searches; searches not limited to English provided slightly more articles than searches limited to English.

Table V. Number of prosthetic dentistry articles cited on MEDLINE, published in English and published in all languages (1990-1999)

	Specific		Sensitive	
Year	English	All	English	All
1990	12	17	273	387
1991	23	36	278	387
1992	35	37	347	386
1993	34	36	328	358
1994	37	37	398	442
1995	52	56	440	473
1996	40	41	540	595
1997	53	54	607	640
1998	64	66	567	606
1999	36	39	383	411

approaches to clinical care. Computer-facilitated systems could provide clinical alerts, updates, and systematic reviews, all in real time. If such systems were linked to electronic patient records and to both patient and doctor preferences, they could facilitate real-time clinical decision analysis.

It should be noted that this study had several drawbacks and is only an approximation of reality. Some methods may have resulted in underestimations or overestimations of the reported clinical literature. First, only MEDLINE was examined. Had the study included other databases (such as EMBASE and Cochrane), the number of citations would have increased. For example, when searches were not limited to English-language articles, the number of articles increased by 7% to 8%. Second, the cited articles were not critically appraised. Had this been done, the number of articles with high validity and clinical applicability would have been lower than the total number of articles identified in the searches. Third, certain relevant studies may have been omitted, whereas other irrelevant articles may have been included. It was with this issue in mind that the sensitive and specific search strategies were implemented to "bound" the available literature.[19] As expected, a sensitive search retrieved more articles than a specific search in all 4 categories. Fourth, the classification of "prosthodontic" articles and their isolation from other specialties was arbitrary. For example, articles on implants were not included in this analysis because "implants" is an overlapping topic in multiple dental specialties. (A separate analysis of the implant literature was conducted; this analysis indicated that the dynamics and location of the implant literature were distinct from those of the prosthetic dentistry literature.) Finally, the key words used in the MEDLINE search were limited to MeSH vocabulary. This word selection was meant to be inclusive, but it may have excluded some relevant articles.

CONCLUSIONS

Within the limitations of this study, the mean number of clinical articles on prosthetic dentistry per year identified by specific and sensitive searches was 40 ± 19 and 416 ± 127, respectively. This mean number increased by approximately 7% per year. Fifty percent of the articles appeared in 14 journals, whereas the other fifty percent appeared in 46 journals. The number of therapy-related articles increased more quickly than the number of etiology-, diagnosis-, or prognosis-related articles. The search strategies and outcomes described in this report should be useful for multiple audiences, including clinicians seeking information about clinical care, academics concerned about identifying an evidence base for curricular decisions, researchers interested in identifying gaps in the available knowledge base, corporate entities aiming to develop new products, policymakers interested in funding clinical research, health care purchasers seeking evidence upon which to make decisions about care compensation, and professional societies seeking guidance for their membership.

Table VI. Citation source and number of published articles on prosthetic dentistry per year (1994-1999) (60 journals and 2353 articles)

Source (MEDLINE abbreviation)	1994	1995	1996	1997	1998	1999	Total	Mean
J Prosthet Dent	24	15	30	30	32	38	169	28.2
Am J Dent	19	23	33	15	11	25	126	21.0
J Dent	11	13	20	24	39	19	126	21.0
J Am Dent Assoc	16	18	14	24	24	12	108	18.0
Dent Today	12	20	37	25	10	0	104	17.3
Community Dent Oral Epidemiol	15	21	18	27	15	8	104	17.3
J Oral Rehabil	4	18	9	25	23	21	100	16.7
Quintessence Int	23	10	21	16	13	15	98	16.3
Caries Res	11	14	15	11	19	12	82	13.7
Br Dent J	14	9	16	13	18	11	81	13.5
J Dent Res	13	7	14	13	12	8	67	11.2
J Public Health Dent	7	20	8	16	12	3	66	11.0
Acta Odontol Scand	8	6	9	10	15	11	59	9.8
Pediatr Dent	6	4	3	10	13	16	52	8.7
Oper Dent	5	10	5	12	12	6	50	8.3
Int J Prosthodont	1	7	11	6	11	11	47	7.8
Compend Contin Educ Dent	11	0	2	4	17	10	44	7.3
ASDC J Dent Child	4	16	9	7	5	2	43	7.2
Aust Dent J	9	2	8	8	8	7	42	7.0
Eur J Oral Sci	0	0	12	7	4	13	36	6.0
Swed Dent J	1	5	5	14	6	5	36	6.0
J Esthet Dent	5	4	1	10	9	4	33	5.5
J Can Dent Assoc	3	3	5	11	3	7	32	5.3
Pract Periodontics Aesthet Dent	2	6	8	10	3	2	31	5.2
Oral Surg Oral Med Oral Path Oral Radiol Endod	6	5	2	8	3	5	29	4.8
J Prosthodont	0	2	7	14	5	0	28	4.7
Community Dent Health	2	4	7	4	9	0	26	4.3
Contact Dermat	3	2	11	3	2	5	26	4.3
Int J Oral Maxillofac Implants	1	9	0	6	3	6	25	4.2
Gen Dent	4	4	3	3	10	0	24	4.0
Dent Mater	5	3	7	1	5	2	23	3.8
J Tenn Dent Assoc	9	1	5	7	0	0	22	3.7
Oral Health	1	4	3	6	6	1	21	3.5
Clin Orthop	1	10	4	0	3	2	20	3.3
J Clin Pediatr Dent	0	6	7	2	2	2	19	3.2
J Oral Maxillofac Surg	0	1	0	16	1	1	19	3.2
J Dent Assoc S Afr	5	1	11	2	0	0	19	3.2
Dent Clin North Am	2	5	3	2	2	4	18	3.0
Int J Periodontics Restor Dent	0	5	5	1	5	1	17	2.8
Int Dent J	5	1	1	7	2	0	16	2.7
J Bone Joint Surg Br	2	0	2	4	8	0	16	2.7
J Am Acad Dermatol	6	1	3	3	0	3	16	2.7
Eur J Prosthodont Restor Dent	3	2	4	3	3	0	15	2.5
Int J Paediatr Dent	4	0	3	7	1	0	15	2.5
J Arthroplasty	2	0	1	0	12	0	15	2.5
Lasers Surg Med	0	2	6	2	5	0	15	2.5
Am J Orthod	3	3	3	2	2	1	14	2.3
Cleft Palate Craniofac J	0	3	4	0	5	2	14	2.3
Dermatol Surg	0	2	0	7	5	0	14	2.3
J Dent Educ	0	1	1	5	3	4	14	2.3
Clin Oral Investig	0	0	0	9	4	0	13	2.2
J Calif Dent Assoc	1	1	2	2	7	0	13	2.2
Gerodontology	1	3	2	2	1	3	12	2.0
Int J Oral Maxillofac Surg	0	0	1	4	2	5	12	2.0
N Y State Dent J	1	0	1	5	4	1	12	2.0
Scand J Dent Res	12	0	0	0	0	0	12	2.0
J Endod	2	2	1	1	3	2	11	1.8
J Gt Houst Dent Soc	2	1	0	2	3	3	11	1.8
Signature	1	2	1	6	1	0	11	1.8
J Periodontol	3	3	2	0	2	0	10	1.7

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Noteworthy Abstracts of the Current Literature

Incidence of tooth sensitivity after home whitening treatment

Jorgensen MG, Carroll WB. *J Am Dent Assoc* 2002;133:1076-82.

Purpose. This randomized prospective double-blind study evaluated the occurrence of tooth sensitivity after home bleaching treatment.

Material and Methods. One hundred adults participated in the investigation. Bleaching kits contained either 5% carbamide peroxide/0.11% fluoride ion bleaching gel (Opalescence F1, Ultradent Products Inc, South Jordan, Utah) or a placebo. A computerized randomization program determined the contents of the kits. Resultant tooth sensitivity was evaluated weekly by 1 investigator during interviews with the participants for a total of 4 weeks. Multiple regression analysis was applied to baseline parameters and data gathered from the interviews.

Results. Transient mild tooth sensitivity was noted in 54% of the patients receiving fluoride treatment kits at the 1- and 2-week periods, transient moderate tooth sensitivity was demonstrated in 8% of these patients after 1 week, and transient severe sensitivity was noted in 4% of the patients after 1 week of treatment. No significant differences, however, were noted between the sensitivity associated with the bleaching gel and that associated with the placebo. A significant correlation was demonstrated between gingival recession and sensitivity at each weekly interview.

Conclusion. Transient tooth sensitivity may result from home bleaching treatments containing 15% carbamide peroxide and 0.11% fluoride, even when a dentist supervises it. Patients exhibiting gingival recession are more likely to experience tooth sensitivity during home bleaching treatment. 34 references.—*DL Dixon*