Dentists' attitudes toward discussing Internet health information with their patients – does professional self-efficacy matter?

Tickotsky Nili, DMD, MEd[1]; Moskovitz Moti, DMD, PhD[2]; Caspi Avner, PhD[3]

1 Private practice
2 Department of Pediatric Dentistry, Hadassah School of Dental Medicine, Jerusalem, Israel
3 Department of Education and Psychology, Open University of Israel

Abstract

Objective: The present study explored the relation between professional self-efficacy and the attitudes of dentists toward discussing Internet dental health information with their patients.

Methods: Fifty-seven dentists answered a questionnaire examining professional self-efficacy and attitudes toward patients wishing to discuss dental health information obtained through the Internet.

Results: A correlation was found between professional experience (in years) and professional self-efficacy [r point by serial (rpb) = 0.27, $P < 0.05$]. No statistically significant correlation was found between specialty and professional self-efficacy (rpb = 0.11, $P < 0.4$), and between professional self-efficacy and attitudes toward patients who wish to discuss dental health information (rpb = 0.22, $P > 0.1$). Specialists were more willing to converse with their patients than nonspecialists. Most participants did not find discussing information from the Internet to be time-consuming.

Conclusions: This pilot study's results indicate that a) Specialists in dentistry were more willing to discuss Internet dental health information with their patients than nonspecialists; b) Dentists with high professional self-efficacy had a positive attitude toward patients who wish to discuss Internet dental health information with them; and c) Further studies are needed to investigate and validate the results of the present study.

Practice Implications: High professional self-efficacy may improve general dentists' attitudes toward patients who wish to discuss Internet dental health information. The dental community should seek to expand the professional self-efficacy of its members in order to enable them to adequately deal with patients' needs.

Introduction

The Internet is becoming a rich source of health information for the public. According to recent surveys, some 60 to 80 percent of Americans have used the Internet to look for health information (1), and socially oriented web sites are increasingly used for health information topics (2). As a result, healthcare professionals are presented with a growing number of patients who wish to discuss Internet-based health information. (1-5).

In recent times, provider–patient communication, as well as patient satisfaction, has been receiving increasing attention

(3-8). Identifying the factors that influence healthcare providers' responses toward patients who wish to discuss Internet health information is becoming essential as those responses may have a significant impact on the physician–patient relationship (3-6,8-10).

According to recent studies, physicians and dentists generally perceived Internet-based health information as problematic when introduced by patients during medical consultations (4,9). Some physicians viewed these situations as a threat to their medical expertise and a challenge to their medical authority, and experienced emotional difficulty in interacting with those patients (4,10).

Cabana *et al.* have defined self-efficacy as "the belief that one can actually perform a behaviour" (11). Self-efficacy beliefs are the individual's conceptions of his or her capabilities to produce results and to attain designated types of performance. Pajares adds that "self-efficacy judgments are both task- and situation-specific" (12). Professional self-efficacy is influenced by the individual's self-perception of competence at the professional field (13,14). Michie *et al.* declared that self-efficacy (including professional confidence and perceived competence) was a key behavioral factor that may explain behavioral adjustment in healthcare professionals (15). Professional experience of physicians has been found to have a significant impact on their professional self-efficacy (13), and physicians' poor self-efficacy has been suggested to be a common barrier to their promoting health education and counseling (11).

In the present study, Internet dental health information was defined as information concerning either dental advice or oral health or the combination of both obtained through Internet-based search.

The purpose of the present study was to explore the influence of professional self-efficacy on dentists' attitudes toward patients who wish to discuss Internet dental health information.

Methods

The study protocol was approved by the Institutional Human Subjects Ethics Committee of the Open University of Israel. Informed consent was obtained from all participants.

Participants and procedure

Questionnaires were handed out during two professional conferences: a) a meeting of The Israeli Society of Oral Medicine; and b) a meeting of The Israeli Dentistry for Children Association. Consent to questionnaires' distribution was given by each organizing committee beforehand.

The anonymous questionnaires were personally handed to each dentist and collected at the end of the day.

Questionnaires (enclosed as appendix) were composed of four parts:
• Demographic information: age, gender, professional experience (in years), and field of specialty in dentistry.
• 14 questions from an empowerment questionnaire by Frans (16) translated to Hebrew (17). Of the 32 items in Frans' empowerment questionnaire, eight questions that test self-beliefs about professional knowledge and skills and six questions that examined professional self-evaluation were selected. The questionnaire in the present study had good internal reliability (Chronbach's $\alpha = 0.8$).

• Two questions about the frequency of patients' discussing dental health information obtained from the Internet with the dentist.
• Six statements about attitudes toward dental health information obtained from the Internet, and toward patients that seek their dentist's opinion on such information. Each statement had a 6-point Likert scales that ranged from 1, totally disagree, to 6, totally agree.

Items 3 and 4 were retrieved from Chestnutt and Reynols' questionnaire for dentists (9) and adapted to the present study's needs.

Statistical analysis

All data were collected using a Microsoft Excel program for basic analysis. Statistical analysis was performed in order to determine the correlation between professional self-efficacy and attitudes toward patients requesting professional opinion about Internet-derived dental health information.

Statistical analysis included Student's *t*-tests for nondependable samples, and point-by-serial examinations. Statistically significant results were set at $P < 0.05$.

Results

Out of 210 participants in the two professional conferences, in which according to each conference's administrative records, about 70 percent of the participants were dentists and the rest were either dental students or dental auxiliary, 57 (38.7 percent) dentists filled out the questionnaires. Forty-four (77 percent) of the questionnaires were filled by male dentists and 14 (23 percent) by women dentists. Age ranged from 27 to 66 with an average of 40 years. Professional experience ranged from 1 to 36 years. Mean professional experience was 12 years, with a median of 14 years. Thirty-seven participants (65 percent) were specialists in dentistry, in one of the following fields: Oral Medicine (12), Pediatric Dentistry (20), and Oral Surgery (5).

Seven participants did not answer the question about the incidence of patients wishing to discuss information retrieved from the Internet. Of the fifty who answered, 16 percent (8) reported a high frequency of at least once a week, 40 percent (20) reported a low (once or twice a month) incidence, and the rest, 44 percent (22), reported a very low incidence. Specialists were more willing to converse with their patients than nonspecialists, as indicated by the difference in rating the statement "I'm always happy to converse with my patients" [$t (50) = 1.91, P = 0.06$]. Most participants did not find discussing Internet dental health information to be time-consuming, as indicated by the average score (5.49, standard deviation = 1.5; here 6 stands for complete disagreement) regarding the statement "discussion of dental health information brought in by the patient consumes valuable time."

A correlation was found between professional experience (in years) and specialty [r point by serial coefficient (rpb) = 0.33, $P < 0.02$]. A correlation has also been found between professional experience (in years) and professional self-efficacy (rpb = 0.27, $P < 0.05$). No statistically significant correlation was found between specialty and professional self-efficacy (rpb = 0.11, $P < 0.4$), and between professional self-efficacy and attitudes toward patients who wish to discuss health information (rpb = 0.22, $P > 0.1$).

Discussion and conclusions

Discussion

The present study found a higher prevalence of patient–dentist discussions of Internet dental health information than previously reported by Chestnut and Reynolds (9). This difference may be due to the fact that the present data were collected in 2009, 3 years after Chestnut and Reynolds' study. With the continually growing popularity of the Internet as a source of medical information (1-5), it may be predicted that in future years, dentists and other health professionals will encounter a still higher prevalence of patients wishing to discuss Internet dental health information with them.

Contrary to reported low compliance by physicians and dentists in earlier studies (4,9), most participants in the present study (79.5 percent) reported a positive attitude toward such discussions. This finding is higher than that of Giveon *et al.* (3), who reported that 59 percent of the general physicians had positive attitudes toward patients who wish to discuss Internet health information. In addition, while several studies (4,9,10) found health professionals' reservations toward conversation with patients to be associated with time management considerations, participants in the present study reported not having such concerns.

The differences in the above findings may be explained by the high number of the specialists in the present study, who were more willing to discuss dental health issues with their patients. As opposed to the hectic pace of work in public clinics, the work of dental specialists is often done in private clinics, where the atmosphere is more relaxed and there is usually a higher awareness of the importance of provider–patient communication.

No statistically significant correlation was found between specialty and professional self-efficacy and between professional self-efficacy and attitudes toward patients who wish to discuss Internet dental health information. A possible explanation may be the fact that the average professional self-efficacy was high in the present sample in general (3.5-5 on a scale of 1-5), both for specialists and for general dentists. The reported high professional self-efficacy may be explained by the high professional experience (mean: 14 years) of the participants that has been found in a former study (13) to be related to professional self-efficacy. Another possible explanation for the high professional self-efficacy may be the nature of the study's population, which was composed of participants in professional conferences. As participation in professional meetings for continuing education is not mandatory for dentists in Israel, participants in such conferences value professional knowledge and are willing to invest resources in order to expand it. Evidence of the exceptionality of the group in the present study is the high rate of specialists (65 percent), as opposed to the rate of specialists in the professional dental population in Israel, which was 8 percent in 2008 (18). High professional self-efficacy has been identified as one of the key factors that improve health providers' inclination to change their professional behavior (15). Participants in the present study demonstrated both high professional self-efficacy and positive attitudes toward discussing Internet information with their patients.

A major limitation of the present study is the low number of respondents. Because of this limitation, the present results should be viewed as preliminary. Further studies are needed in order to investigate the relation between professional self-efficacy and dentists' attitudes toward patients who wish to discuss Internet information with them.

Conclusions

The findings of this study should be considered preliminary; hence, conclusions must be cautiously drawn. Future studies are needed to establish the following findings:

- Specialists in dentistry were more willing to discuss Internet dental health information with their patients than non-specialists.
- Dentists with high professional self-efficacy had a positive attitude toward patients who wished to discuss Internet dental health information with them.

Practice implications

High professional self-efficacy may improve general dentists' attitudes toward patients who wish to discuss Internet dental health information. The dental community should seek to enhance the professional self-efficacy of its members in order to enable them to adequately deal with their patients' needs. This may be done both in dental schools and through promoting continuing professional education.

References

1. Fox S. Online health search 2006: most internet users start at a search engine when looking for oral health on line. Pew internet & American life project [Internet]. 2006. [cited 10 Oct 2009]. Available from: http://www.pewinternet. org/Reports/2006/Online-Health-Search-2006.aspx

2. Vance K, Howe W, Dellavalle R. Social Internet sites as a source of public health information. *Dermatol Clin.* 2009;**27**: 133-6.

3. Giveon S, Yaphe J, Hekselman I, Mahamid S, Hermoni D. The e-patient: a survey of Israeli primary care physicians' responses to patients' use of online information during the consultation. *Isr Med Assoc J.* 2009;**11**(9):537-41.

4. Ahmad FL, Hudak P, Bercovitz K, Hollenberg E, Levinson W. Are physicians ready for patients with internet-based health information? *J Med Internet Res.* 2006;**298**:22-30. PubMed.

5. Wald HS, Dube CE, Anthony DC. Untangling the web – the impact of Internet use on health care and the physician–patient relationship. *Patient Educ Couns.* 2007;**68**:218-24.

6. Bylund CL, Gueguen JA, Sabee CM, Imes RS, Li Y, Sanford AA. Provider–patient dialogue about Internet health information: an exploration of strategies to improve the provider–patient relationship. *Patient Educ Couns.* 2007;**66**: 346-52.

7. Dieterich A. The modern patient – threat or promise? Physicians' perspectives on patients' changing attributes. *Patient Educ Couns.* 2007;**67**:279-85.

8. Kivits J. Informed patients and the internet: a mediated context for consultations with health professionals. *J Health Psychol.* 2006;**11**:e269.

9. Chestnutt IG, Reynolds K. Perceptions of how the Internet has impacted on dentistry. *Br Dent J.* 2006;**3**:161-5.

10. McMullan M. Patients using the Internet to obtain health information: how this affects the patient–health professional relationship. *Patient Educ Couns.* 2007;**63**:8-24.

11. Cabana MD, Rand CS, Powe NR, Wu AW, Wilson MH, Abboud PAC, Rubin HR. Why don't physicians follow clinical practice guidelines? A framework for improvement. *JAMA.* 1999;**282**:e1458. PubMed.

12. Pajares F. Current directions in self-efficacy research. In: Maehr M, Pintrich PR, editors. *Advances in motivation and achievement*, Vol. 10. Greenwich, CT: JAI Press, Emory University; 2007. p. 1-49. PubMed.

13. Carmel S. The professional self-esteem of physicians: scale, structure, properties and the relationship to work outcomes and life satisfaction. *Psychol Rep.* 1997;**80**:591-602.

14. Judge TA, Bono JE. Relationship of core self-evaluations traits – self-esteem, generalized self-efficacy, locus of control, and emotional stability – with job satisfaction and job performance: a meta-analysis. *J Appl Psychol.* 2001;**86**: 80-92.

15. Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A. "Psychological Theory" Group. Making psychological theory useful for implementing evidence based practice: a consensus approach. *Qual Saf Health Care.* 2005; **14**:26-33.

16. Frans DJ. A scale for measuring social worker empowerment. *Research on social work practice.* 1993;**3**:312-28.

17. Bustin E. The connection between values, supervision, empowerment, and effectiveness in social work. Unpublished Doctoral; 2002.

18. Ramon T. Dental professions in Israel and abroad. In: Mann J, Fisher R, editors. *Systematic dentistry*. Tel Aviv: Opal; 2008. p. 163-81.