

## Survey of Internet usage among pediatric dentists in Riyadh, Saudi Arabia

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هدفت هذه الدراسة لجمع معلومات متعلقة باستخدام الإنترنت من قبل أطباء أسنان الأطفال في المملكة العربية السعودية. وقد تم إعداد نموذج لذلك يحتوي على ستة عناصر جرى توزيعه على المشاركين في لقاء النادي السعودي لطب أسنان الأطفال الذي انعقد في مدينة الرياض في يناير ٢٠٠١، وقد بلغ عدد المشاركين اثنان وثلاثون طبيباً. وقد تم إجراء تحليل التوزيع التكراري للحقائق. بلغت نسبة الاستجابة ١٠٠% أغلب الحضور من الذكور ٦٦% وبلغ عدد الذين أهدوا تدريبهم في مجال طب أسنان الأطفال خلال التسعينيات (٥٦%). دلت النتائج على أن معظم المشاركين يستعملون الإنترنت، وحوالي الثلثين يستعملون الإنترنت من مرتين إلى ثلاث مرات أسبوعياً، والثلث الباقي مرة واحدة في الأسبوع. كما أن ثلثي مستعملي الإنترنت.

يكون لغرض التعليم المستمر أو قراءة الدوريات. ومن أكثر المواقع شيوعاً، الموقع الخاص بالأكاديمية الأمريكية لطب أسنان الأطفال حيث احتل المرتبة الأولى بين ثلث مستعملي الإنترنت. يمكن الاستنتاج على أن أطباء أسنان الأطفال في المملكة العربية السعودية يستغلون إمكانيات الوسيلة الإعلامية الجديدة للتعليم المستمر في مجال تخصصهم.

The objective of this survey was to field information related to the use of the Internet by pediatric dentists in Saudi Arabia. A six-item anonymous survey was handed out to all the thirty-two participants of the Saudi Pediatric Dentistry Club Meeting in Riyadh in January 2001. The survey had a 100 percent response rate with most of the respondents being males (66%), and those who had completed their pediatric dentistry training in the 1990's (56.3%). Almost all (93.8%) of the respondents used the Internet. Two-thirds (65.6%) of the respondents used the Internet at least twice or thrice in a week. About nine out of ten (87.5%) respondents did not use e-mail to communicate with patients and their parents. Two-thirds (66.8%) of the respondents used the Internet for professional continuing education or for reading journals. The American Academy of Pediatric Dentistry's web site was the most popular amongst the respondents. In conclusion, this survey demonstrated that pediatric dentists in Saudi Arabia were Internet-savvy and have leveraged this new medium for professional continuing education.

### Introduction

The advent of the graphical user-friendly Internet in the form of the World Wide Web has revolutionized health care at the turn of the Millenium. This new medium has the potential to change patient-practitioner communication. It has been observed that increased use of e-mail by physicians, health care organizations and patients has the potential to reshape the current boundaries of relationships in medical practice.<sup>1</sup> Proponents of the new technology have claimed e-mail proficiency for communication with patients as the most important "cybermedical" skill.<sup>2</sup>

The Internet surpasses traditional geographical barriers that have for long impeded continuing education for clinical practitioners. This has lead to institutions such as the University of Michigan School of Dentistry to offer online courses that can be undertaken by dentists across the world, and that too at a time suitable to their own convenience.<sup>3</sup> Given the recent introduction and exponential growth of the Internet, there is a paucity of information related to the use of the Internet by pediatric dentists. The objective of this survey was to field information related to the use of the Internet by pediatric dentists in Saudi Arabia.

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### Materials and Methods

A six-item anonymous survey was handed out to all the thirty-two participants of the Saudi Pediatric Dentistry Club Meeting in Riyadh in January 2001. This survey assessed the following aspects of the use of the Internet by pediatric dentists:

1. Internet usage and its frequency.
2. Use of e-mail communication with patients (parents).
3. Use of e-mail communication to discuss individual patient issues with other health care providers.
4. The top five dental web sites visited on a regular basis.
5. Use of the Internet for professional continuing education or for reading journals.
6. Finally, the demographic characteristics of the respondents such as gender and decade of such as completion of pediatric dentistry training.

Frequency distribution analyses were performed on the data set.

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## Results

All the thirty-two respondents returned the survey forms for a response rate of 100 percent. Two-thirds of the respondents were males (65.6%). Respondents who had completed their pediatric dentistry training in the 1990's (56.3%) formed the largest group. Almost all (93.8%) of the respondents used the Internet. Two-thirds of the respondents (65.6%) used the Internet at least twice or thrice in a week with more than one third of these (37.5%) accessing the Internet every day.

Nine out of the ten respondents (87.5%) did not use e-mail to communicate with patients or their parents. Four out of five respondents (78.1%) did not use e-mail to communicate with other health care providers on individual patient issues. Two-thirds of the respondents (68.8%) utilized the Internet for professional continuing education or for reading journals. The web site of the American Academy of Pediatric Dentistry was the most popular dental web site (59%) visited by the respondents. The United States National Library of Medicine's PubMed MEDLINE search web site was the next most popular web site with one-third of the respondents (31%) using it on a regular basis. The web site of the American Society of Dentistry for Children was the third most popular web site with one-fourth (25%) of the respondents visiting it on a regular basis.

## Discussion

The present questionnaire survey fielded information related to the use of the Internet by the pediatric dentists in Saudi Arabia. The percent response rate makes the findings of this otherwise small specialty niche, survey highly valid. It has been observed that a high response rate increases the precision of survey estimates and promotes confidence in the survey.<sup>4</sup>

The demographic profile of the respondents indicated that this specialty group appears to be composed of young individuals as most respondents received their pediatric dentistry training in the 1990's. Internet usage was near total in the present study. This likely reflects the youth of the pediatric dentists in Saudi Arabia. Anecdotal information regarding early adoption of technology of young adults abounds in the lay press. This hypothesis was endorsed in a bootstrapping manner by the enthusiastic frequency of the Internet usage in the present survey.

Most of the respondents in the present survey did not use e-mail to communicate with patients or their parents, or to discuss individual patient issues with other health care providers. It is possible that some of the patients or parents may not use e-mail. Nevertheless, not using e-mail for communicating with patients or parents is a prudent approach considering the security issues related to the transfer of confidential information over the Internet. Use of the Internet is a 2-way exchange of data over a public information network. "Before data are exchanged, each message is divided into equal-sized units to which leading address labels and trailing termination markers are attached to form information packets."<sup>5</sup> In a procedure termed "packet sniffing", these data bits can be maliciously intercepted as they travel over the Internet.<sup>5</sup> The use of data encryption surmounts this security issue, but this feature is yet to go mainstream.<sup>5</sup>

It has been noted that the primary reason dentists use the Internet is "to keep up in general".<sup>6</sup> This was confirmed in the present study where two-thirds of the respondents utilized the Internet for professional continuing education or for reading journals. The respondents also appeared to be avid practitioners of the evidence-based paradigm since one-third of them regularly used PubMed, the United States National Library of Medicine's MEDLINE search web site. This serendipitous information highlighted the contemporary and high standard of care practiced by the pediatric dentists in Saudi Arabia as they appeared to be routinely engaged in the "critical appraisal exercise". The Evidence-based Medicine Working Group has observed that in the process termed the "critical appraisal exercise," clinicians should regularly consult the original scientific literature in order to obtain answers to clinical problems with the objective of providing optimal patient care.<sup>7</sup>

The American Academy of Pediatric Dentistry's web site was the most popular dental web site amongst the respondents. The popularity of this web site underscores the global reach of the Internet and emphasizes its advantage in the "reduction of professional isolation."<sup>6</sup> This issue, however, is a double-edged sword. While it is true that pediatric dentists in Saudi Arabia have ease of access to international resources in pediatric dentistry, it must be borne in mind that some of these information resources are not essentially designed for international use, and therefore may not be applicable to the local patient population in Saudi Arabia. This is particularly true of the new

evidence-based guidelines that are being currently developed with the inclusion of epidemiological data (such as in areas of fluoride use, fissure sealants etc) in the clinical decision making process.

### Conclusion

The present survey demonstrated that use of Internet by pediatric dentists who participated in this study in Saudi Arabia was almost universal with the primary professional use of the Internet being for continuing education.

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