Oral Diseases (2005) 11, 318–322

http://www.blackwellmunksgaard.com

ORIGINAL ARTICLE

Willingness of dentists in Jordan to treat HIV-infected patients

M El-Maaytah[1], A Al Kayed[2], M Al Qudah[3], H Al Ahmad[1], K Al-Dabbagh[4], W Jerjes[1], M Al Khawalde[4], O Abu Hammad[2], N Dar Odeh[2], K El-Maaytah[4], Y Al Shmailan[4], S Porter[1], C Scully[1]

[1]*Division of Oral and Maxillofacial Medical, Surgical and Diagnostic Services, Eastman Dental Institute for Oral Health Care Sciences, London;* [2]*School of Dentistry, University of Jordan, Jordan;* [3]*Department of Oral and Maxillofacial Surgery, School of Dentistry, Jordan University of Science and Technology, Jordan;* [4]*Royal Medical Services, King Hussain Centre, Amman, Jordan*

Reluctance of dentists to treat human immunodeficiency virus (HIV) positive patients represents a major concern. Many efforts have been extended towards the documentation of the extent of this reluctance and speculation of factors that influence it.

OBJECTIVES: Assess the willingness of dentists in Jordan to treat HIV-infected patients.

MATERIALS AND METHODS: Two hundred and forty-two general dental practices were surveyed for their willingness to provide treatment of toothache and routine dental care of an HIV-infected individual.

RESULTS: Only 15% of the dental practices were willing to provide such care. Willingness to provide treatment did not seem to be influenced by financial factors or the local prevalence of HIV disease.

CONCLUSION: Present data suggest that HIV-infected individuals will have difficulty in obtaining dental health care in Jordan.

Oral Diseases (2005) **11**, 318–322

Keywords: dentist; human immunodeficiency virus; Jordan; willingness

Introduction

Human immunodeficiency virus (HIV) is the main cause of acquired immunodeficiency syndrome (AIDS) continues to spread across the world, occupying the fourth place among the deadliest diseases worldwide.

Persons with HIV disease have been resident in Jordan since the middle of 1980s and have undoubtedly been seeking routine dental care in different geographical areas of the country. However as the rate of individuals becoming infected continues to rise greatly, it is likely that increasing more HIV-infected persons will require routine dental health care.

Jordan has a very low HIV prevalence rate, and only a few cases of AIDS have been identified. AIDS was detected in Jordan in 1986, and as of December 2003, fewer than 1,000 HIV infections and 334 cumulative cases of AIDS, with 67 deaths, had been reported to the National AIDS Program. Nearly 60 per cent of cases have occurred among non-Jordanians, and 68 per cent of all individuals with HIV infection are between the ages of 20 and 39. However, because of the absence of a strong HIV/AIDS surveillance systems, as well as pervasive fear and stigma associated with HIV/AIDS throughout the country, these statistics maybe only a portion of the actual cases (The United States Agency for International Development, Office of HIV/AIDS).

Little information exists on HIV infections among at-risk groups in Jordan. Sexual transmission is the primary mode of HIV transmission. Forty-five per cent of all transmissions occur through heterosexual contact, and blood products account for another 39% of transmissions. HIV seroprevalence among blood donors remains below 0.03% in Jordan. Screening has been conducted among only a very few sex workers, prostitutes, and men who have sex with men.

Jordan faces the following challenges in maintaining a low prevalence of HIV/AIDS:

1. Pervasive fear and stigma associated with HIV/AIDS, which discourages frank discussion of the illness and prevention measures, absence of a strong HIV/AIDS surveillance system.
2. Lack of education and programmes that prevent the spread of HIV and other sexually transmitted infections (STI).
3. Widespread lack of condom demand, availability and use.
4. Lack of condom marketing for STI/AIDS prevention.

Correspondence: Dr M El-Maaytah, Oral & Maxillofacial Surgery Department, Eastman Dental Institute for Oral Health Care Sciences, UCL, University of London, 256 Gray's Inn Road, London WC1X 8LD, UK. Tel: 44207 915 1056, Fax: 44207 915 1259, E-mail: elmaaytah@hotmail.com
Received 24 June 2004; revised 6 July 2004; accepted 18 January 2005

5. Lack of access to reproductive health information or related health care, particularly for young people.
6. Limited use of universal prevention precautions; and need to expand the HIV/AIDS response across both health and non-health sectors.

Despite various public announcements of HIV disease, the knowledge that HIV is not transmitted via non-sexual or parenteral routes made the HIV-infected persons encounter difficulties in obtaining dental care (Porter *et al*, 1993). In particular studies it is been found that up to 70% of some dental practices may be unwilling to provide dental care for HIV-infected individuals with pain of likely dental origin (Nattrass, 1988; DiAngelis *et al*, 1989; Verrusio *et al*, 1989; Rydman *et al*, 1990; Glick and Burris, 1997).

Materials and methods

Two hundred and forty-two randomly selected general dental practitioners were telephoned by one of the authors who requested care of a toothache in different geographical areas of Jordan. The patient was willing to receive dental treatment under any available private payment scheme. Following agreement, the prospective patient revealed that he was HIV seropositive but otherwise fit and well.

Results

A total of 242 dental practices were contacted by telephone. Overall 14.8% of dental practices accepted the prospective patients for treatment of pain of dental origin. 46.3% of the dental practices were unwilling to accept the HIV-infected individuals for care and in 19% of the practices; patients were refused by the receptionist. Just fewer than 39% of the practices were unwilling to provide dental care, but did provide some advice and information of places offering dental care.

There were no noticeable differences in the rates of acceptance and refusal between practices of different geographical areas of Jordan.

Table 1 summarizes the results obtained from all 242 practices.

Table 1 Response of dental practices to treat human immunodeficiency virus infected patients

	Amman	*AL-Zarqa*	*Karak & South*	*Irbid & North*	*Total*
Accepted by dentist	18	6	4	4	32
Refused by dentist	34	8	8	16	66
Advised by dentist to go elsewhere	42	20	20	12	94
Refused by receptionist	20	6	8	12	46
Accepted by receptionist	–	–	–	4	4
Total	114	40	40	48	242

Discussion

All persons are at risk of dental disease, notably dental caries or periodontal disease. Individuals with HIV disease can have such disease and be at increased risk of dental caries (Castro *et al*, 2001) [as a consequence of HIV salivary gland disease (SGD)] or gingivitis or periodontitis secondary to HIV-related immunosuppression, or gingival inflammation because of HIV–SGD (Vastardis *et al*, 2003). The growing number of infected cases everyday requires more efforts.

While the majority of HIV-infected persons lie in sub-Saharan Africa, South America and Southeast Asia, new infections arise in all areas of the world (Kawonza, 2003); in addition some persons with HIV disease migrate and travel. Thus dentists in all countries of the world are likely to be treating or be required to provide care to HIV-infected individuals.

It is generally accepted that all health care workers should provide clinical care to all individuals, regardless of their gender, ethnicity, age or sexual orientation. The World Health Organization advises dentists to provide dental care for HIV-infected individuals. However such advice, not all dental practitioners are readily willing to provide care to individuals with HIV disease.

General surveys involving many dentists in the United States in 1986 showed very low rate of willingness (21%) (Verrusio *et al*, 1989), few more surveys been done since that time and dentists have shown that they are more willing to treat HIV-infected patients than before (Aitchison *et al*, 1987; Sadowsky and Kunzel, 1991; Bennett *et al*, 1995). Few separate studies were conducted in a number of states have shown some encouraging results especially in Chicago (Hazelkorn, 1989), San Francisco (Gerbert *et al*, 1989), Los Angeles (Samaranayake *et al*, 1990), Pennsylvania (Rydman *et al*, 1990) and New York (Sadowsky and Kunzel, 1994) in the late 1980s and early 1990s with a willingness rate of 70–98%, which have shown great improve for some of these cities compared with previous surveys, on the contrary a few dentists has shown their willingness to treat HIV patients in Texas (Dove and Cottone, 1990) and Chicago (Tofani, 1990).

In Europe, surveys took place in Denmark (Scheutz, 1989; Scheutz and Langebaek, 1995) for many years and have shown great improve in the rate of willingness (78.7%) by 1993 (Scheutz and Langebaek, 1995); a number of surveys took place in the UK and have shown some high willingness in Glasgow (Samaranayake *et al*, 1990) and low one in England, Wales. A study in Scotland shows low willingness (Gibson and Freeman, 1996). Other surveys in Italy (Angelillo *et al*, 1994) showed 65% of willingness. Other Surveys in Mexico City (Irigoyen *et al*, 1998), Caribbean Islands (Vignarajah *et al*, 1998), Canada (Godin *et al*, 1999; McCarthy *et al*, 1999) and Singapore (Chan *et al*, 1997) have shown some reasonable degree of willingness (65–81%), While 42% of the

Table 2 Reported attitude toward treating HIV infected individuals

Year	*Region*	*Willingness (%)*	*Authors*
1986	Minnesota	23	DiAngelis *et al* (1989)
1986	Denmark	56.1	Scheutz and Langebaek (1995)
1986	USA	21	Verrusio *et al* (1989)
1987	USA	44	Aitchison *et al* (1987)
1987	Minnesota	37	DiAngelis *et al* (1989)
1987	New York	28	Yablon *et al* (1989)
1987	Chicago	68	Moretti *et al* (1989)
1988	San Francisco	23	Nattrass (1988)
1988	USA	31	Verrusio *et al* (1989)
1988	Great Britain	45	Nattrass (1988)
1988	Denmark	56.1	Scheutz (1989)
1989	Chicago	98	Hazelkorn (1989)
1989	San Francisco	89.2	Gerbert *et al* (1989)
1989	Los Angeles	82	Samaranayake *et al* (1990)
1989	Denmark	36	Scheutz (1989)
1989	Glasgow	74	Samaranayake *et al* (1990)
1989	Texas	34	Dove and Cottone (1990)
1990	Pennsylvania	70	Rydman *et al* (1990)
1990	USA	60	Sadowsky and Kunzel (1991)
1990	Australia	33	Bray and Chapman (1990)
1990	Chicago	27	Rydman *et al* (1990)
1991	Israel	26	Trieger *et al* (1993)
1992	South Africa	45	Darling *et al* (1992)
1992	England & Wales	52	Wilson *et al* (1995)
1993	Denmark	78.7	Scheutz and Langebaek (1995)
1993	New York	74	Sadowsky and Kunzel (1994)
1994	Canada	77	McCarthy *et al* (1999)
1994	Brazil	44	Sposto *et al* (1994)
1994	Italy	65	Angelillo *et al* (1994)
1995	USA	68	Bennett *et al* (1995)
1996	Scotland	39	Gibson and Freeman (1996)
1996	Singapore	61.5	Chan *et al* (1997)
1997	Natal, SA	42	Naidoo (1997)
1998	Caribbean	84	Vignarajah *et al* (1998)
1998	Mexico City	74	Irigoyen *et al* (1998)
1999	Quebec	75	Godin *et al* (1999)
1999	Canada	81	McCarthy *et al* (1999)
2000	Mexico City	High	Maupome *et al* (2000)
2001	Kenya	High	Gachigo and Naidoo (2001)

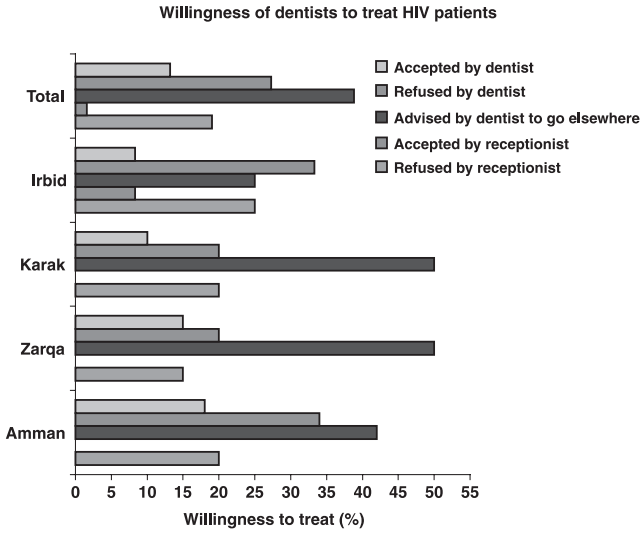

Figure 1 Attitudes of dental practices towards treating HIV infected patients in Jordan

dentists in Natal in South Africa (Naidoo, 1997) have shown willingness to treat those patients (see Table 2).

Our results shows that 46% of practices refused to provide any dental care for infected individuals and did not offer any advice on where appropriate care could be obtained. The direct refusal from the reception in 19% practices in particularly worrying. This may reflect a standard operating procedure in the practice to refuse all dental care to HIV-infected individuals.

The remaining 39% of dental practices did not provide care but did suggest that the patient seek treatment from a dental hospital. But while this may be feasible in Amman and Irbid (where there are dental hospitals), it was not the case in the other areas. A patient would have to travel great distances from these regions to obtain dental care in a dental hospital.

The unwillingness of dentists in Jordan to provide care to an HIV-infected individual is far in excess from other similar studies in other countries. Our study did not investigate the reasons for refusal to provide care; possible causes will include risk of HIV acquisition and concern on existing patients. Whatever the reason was, there is no evidence that HIV is transmitted in dental setting (Yablon *et al*, 1989) or even to suggest that individuals with HIV infection do stop attending dental practices that provide care to patients with HIV disease (Rydman *et al*, 1990).

The dental practitioners most likely to adopt a positive attitude towards treating HIV-infected individuals seem to be those who are in their early years of practice, who work in group practices in areas in which HIV is highly prevalent, and who have acquired more in-depth knowledge on HIV by attending different postgraduate programmes.

Different dentists adopt different attitudes, such as those willing to provide treatment for patients with early HIV but not those suffering from full-blown AIDS; furthermore, some practitioners seem to be worried that, if it becomes known that they are willing to treat HIV-infected individuals or even non-infected homosexual males, then they may end up losing non-HIV-infected patients (Barr *et al*, 1989).

This present investigation revealed some obvious regional variations within the Kingdom with regards to the attitudes towards treating HIV-infected patients. For instance, while 16% of practices in Amman (the Capital) were ready to accept the potential patient, this percentage declined to 8% in the north (Irbid and surrounding cities).

The surveyed group of dentists did not seem to have their decisions influenced by financial limitations, as all practices were ready to accept the patient treatment under a private scheme only to reject him when his HIV-seropositivity was revealed. It can thus be concluded that different factors, most notably apprehension of nosocomial HIV transmission, are responsible for

disinclination of dental practitioners to treat HIV-infected persons.

Conclusion

One of eight dentists reported their willingness to treat HIV-infected patients; the present data suggest that HIV-infected individuals will have difficulty in obtaining dental health care in Jordan.

As the rate of HIV-infected individuals continues to rise, there will be an urgent need to establish the cause to resolve the unwillingness of dentists to treat HIV-infected persons.

References

Aitchison KA, Dolan TA, Meetz HK (1987). How dentists dissimilated information about AIDS? *J Dent Edu* **51:** 668–672.

Angelillo IF, Villari P, D'Errico MM *et al* (1994). Dentists and AIDS: a survey of knowledge, attitudes, and behavior in Italy. *J Public Health Dent* **54:** 145–152.

Barr CE, Rua-Dobles A, Puig N (1989). Dental care for HIV-positive patients. *Spec Care Dent* **9:** 191–193.

Bennett ME, Weyant RJ, Wallisch JM *et al* (1995). Dentists' attitudes toward the treatment of HIV-positive patients. *J Am Dent Assoc* **126:** 509–514.

Bray F, Chapman S (1990). AIDS and dentistry in Australia: knowledge, infection control practices and attitudes to treatment in a random sample of Australian dentists. *Community Health Stud* **14:** 384–393.

Castro GF, de Souza IP, e Oliveira RH *et al* (2001). Prevalence of caries and its correlation with clinical and immunological classification in HIV-infected children. *Pesqui Odontol Bras* **15:** 91–97.

Chan R, Khoo L, Goh CL *et al* (1997). A knowledge, attitudes, beliefs and practices (KABP) survey on HIV infection and AIDS among doctors and dental surgeons in Singapore. *Ann Acad Med Singapore* **26:** 581–587.

Darling M, Arendorf T, Samaranayake LP (1992). Oral care of HIV-infected patients: the knowledge and attitudes of South African dentists. *J Dent Assoc S Afr* **47:** 399–402.

DiAngelis AJ, Martens LV, Little JW *et al* (1989). Infection Control Practices of Minnesota dentists: changing during one year. *JADA* **118:** 299–303.

Dove SB, Cottone JA (1990). Knowledge and attitudes of Texas dentists concerning AIDS. *Am J Dent* **3:** 5–8.

Gachigo JN, Naidoo S (2001). HIV/AIDS: the knowledge, attitudes and behaviour of dentists in Nairobi, Kenya. *SADJ* **56:** 587–591.

Gerbert B, Sumser J, Chamberlin K *et al* (1989). Dental care experience of HIV positive patients. *JADA* **119:** 601–603.

Gibson BJ, Freeman R (1996). Dangerousness and dentistry: an explanation of dentists' reactions and responses to the treatment of HIV-seropositive patients. *Community Dent Oral Epidemiol* **24:** 341–345.

Glick M, Burris S (1997). The professional responsibility for care. *Oral Dis* **3**(Suppl. 1)**:** S221–S224.

Godin G, Naccache H, Brodeur JM *et al* (1999). Understanding the intention of dentists to provide dental care to HIV+ and AIDS patients. *Community Dent Oral Epidemiol* **27:** 221–227.

Hazelkorn HM (1989). The reaction of dentists to member of groups at risk of AIDS. *JADA* **119:** 611–619.

Irigoyen M, Zepeda M, Lopez-Camara V (1998). Factors associated with Mexico City dentists' willingness to treat AIDS/HIV-positive patients. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* **86:** 169–174.

Kawonza L (2003). Raising awareness of HIV for World AIDS Day. *Nurs Times* **99:** 28–29.

Maupome G, Acosta-Gio E, Borges-Yanez SA *et al* (2000). Survey on attitudes toward HIV-infected individuals and infection control practices among dentists in Mexico City. *Am J Infect Control* **28:** 21–24.

McCarthy GM, Koval JJ, MacDonald JK (1999). Factors associated with refusal to treat HIV-infected patients: the results of a national survey of dentists in Canada. *Am J Public Health* **89:** 541–545.

Moretti RJ, Ayer WA, Derefinko A (1989). Attitudes and practices of dentists regarding HIV patients and infection control. *Gen Dent* **37:** 144–147.

Naidoo S (1997). Dentists and cross-infection. *J Dent Assoc S Afr* **52:** 165–167.

Nattrass C (1988). An elective in San Francisco. HIV infection: comparing attitudes, knowledge and cross infection control amongst dentists in San Francisco and Great Britain. *Br Dent J* **165:** 412–414.

Porter S, el-Maaytah M, Afonso W *et al* (1993). Attitudes of dentists to HIV-positive patients. *Lancet* **341:** 1032.

Rydman RJ, Yale SH, Mullner RM *et al* (1990). Preventive control of AIDS by the dental profession: a survey of practices in a large urban area. *J Public Health Dent* **50:** 7–12.

Sadowsky D, Kunzel C (1991). Are you willing to treat AIDS patient? *JADA* **122:** 28–32.

Sadowsky D, Kunzel C (1994). Measuring dentists' willingness to treat HIV-positive patients. *J Am Dent Assoc* **125:** 705–710.

Samaranayake LP, Figueiredo HM, Rowland CA *et al* (1990). A comparison of the attitudes of hospital dentists and dental students in Glasgow, UK and Los Angeles, USA towards treatment of AIDS and hepatitis B patients. *Am J Dent* **3:** 9–14.

Scheutz F (1989). Dental care of HIV-infected patients: attitudes and behavior among Danish dentists. *Community Dent Oral Epidemiol* **17:** 117–119.

Scheutz F, Langebaek J (1995). Dental care of infectious patients in Denmark, 1986–1993: theoretical considerations and empirical findings. *Community Dent Oral Epidemiol* **23:** 226–231.

Sposto MR, Goncalves F, Ferracioli A *et al* (1994). Willingness of Brazilian dentists to treat an HIV-infected patient. *Oral Surg Oral Med Oral Pathol* **78:** 175–177.

The United States Agency for International Development, Office of HIV/AIDS. http://www.usaid.gov/our_work/global_health/aids/countries/ane/jordan.html.

Trieger N, Schlesinger N, Kaufman E *et al* (1993). Israeli dentists: a survey of infection control office practices and care of medically compromised patients. *Spec Care Dentist* **13:** 117–121.

Vastardis SA, Yukna RA, Fidel PL Jr *et al* (2003). Periodontal disease in HIV-positive individuals: association of periodontal indices with stages of HIV disease. *J Periodontol* **74:** 1336–1341.

Verrusio AC, Neidle EA, Nash KD *et al* (1989). The dentist and infectious diseases: a national survey of attitude and behaviour. *JADA* **118:** 553–562.

Vignarajah S, Eastmond VH, Ashraph A *et al* (1998). An assessment of cross-infection control procedures among English-speaking Caribbean general dental practitioners. A regional preliminary study. *Int Dent J* **48:** 67–76.

Wilson NH, Burke FJ, Cheung SW (1995). Factors associated with dentists' willingness to treat high-risk patients. *Br Dent J* **178:** 145–148.

Yablon P, Spiegel RS, Wolf MC (1989). Changes in dentists' attitudes and behaviour concerning infection control practices. *Quintessence Int* **20:** 279–284.