Community Dental Health (2007) **24,** 257-263
Received 2 May 2005; Accepted 1 May 2006

The working practices and career satisfaction of dental therapists in New Zealand

K.M.S. Ayers[1], A. Meldrum[1], W.M. Thomson[1] and J.T. Newton[2]

[1]Department of Oral Sciences, Faculty of Dentistry, University of Otago, New Zealand. [2]Division of Dental Public Health & Oral Health Services Research, Guy's, King's & St Thomas' Dental Institute, King's College London, United Kingdom.

Objective To describe the working practices and level of career satisfaction of dental therapists in New Zealand. ***Design*** Postal survey of dental therapists identified from the New Zealand Dental Council's dental therapy database. One mailing with one follow-up. ***Participants*** Questionnaires were sent to 683 registered dental therapists. Replies were received from 566 (82.9%). ***Outcome measures*** Current working practice, career breaks, continuing education, career satisfaction. ***Results*** Respondents had a high career satisfaction, but were much less satisfied with their remuneration. After controlling for age and income satisfaction, therapists who felt that they were valued members of the dental community had over four times the odds of having higher overall job satisfaction. There were no differences in the mean career satisfaction scale score by age, but respondents aged 45 and over had a lower mean income satisfaction scale score than their younger counterparts ($p<0.05$). Older respondents were more likely to report regularly placing fissure sealants ($p<0.05$), participating in peer review ($p<0.05$), and playing a role in team management/coordination ($p<0.05$) than younger respondents. Most therapists (412; 82.2%) had taken at least one career break, usually for child rearing. A mean of 6.5 years (SD 5.9; range six weeks to 25 years) had been taken in career breaks. Younger therapists were more interested in moving into private practice than their older colleagues ($p<0.05$). More than half of respondents planned to retire from dental therapy within 10 years. ***Conclusion*** Urgent action is required to improve the recruitment and retention of dental therapists in the New Zealand School Dental Service. Measures to reduce the time taken in career breaks could increase the productivity of this workforce. Remuneration and career progression are key issues; therapists need to feel that they are valued members of the dental profession.

Key words: Career satisfaction, dental auxiliaries, dental therapists, workforce

Introduction

Dental therapists in New Zealand provide oral health assessment, oral health care and preventive dental services for children and adolescents. Most work within the school dental services (SDS), usually treating children up to the age of 13 years. SDSs have provided free treatment since 1921, and 95% of children are enrolled (Ministry of Health, 2003). A recent review of the dental therapy workforce indicated that there are several difficulties facing this profession. Contributing factors to the poor recruitment and retention of dental therapists include the lack of a career structure, narrow scope of practice, outdated facilities and inadequate remuneration (Dental Therapy Technical Advisory Group, 2004).

The provision of dental services in New Zealand is undergoing a period of change, largely due to the implementation of the Health Practitioners Competence Assurance (HPCA) Act 2004. This Act allows for an expansion of the scope of practice of dental therapists, and also enables them to move into private practice for the first time. These changes parallel changes to dentistry in the United Kingdom (General Dental Council, 1998).

Little is known about the career satisfaction of dental health workers in New Zealand, despite recent interest in this area internationally. Most career satisfaction research has focused on dentists and dental hygienists (Gibbons *et al.*, 2001; Jevack *et al.*, 2000; Logan *et al.*, 1997; Bader and Sams, 1992; Lancaster and Grogono, 1990; Boyer, 1990; Moltzer *et al.*, 1990), with only three papers considering dental therapists (Gibbons *et al.*, 2000; Naidu *et al.*, 2002; Newton and Gibbons, 2001). Although dental therapists in the UK have been found to have relatively high levels of career satisfaction (mean = 7.3 on a 10 point scale; Gibbons *et al.*, 2000), dental nurses in Trinidad and Tobago had a mean value of only 5.2, reportedly due to poor salary and working conditions and the lack of a career path (Naidu *et al.*, 2002). Because the role of dental nurses in Trinidad and Tobago is similar to that of dental therapists in New Zealand, while those in the UK work in a more expanded role in the community dental services, comparing the three groups' career satisfaction levels using the same scale would provide useful information which could enhance understanding of what is required to maximise workforce retention.

The aim of the current study was to investigate the working patterns and career satisfaction of dental therapists in New Zealand.

Method

Ethical approval for the study was granted by the University of Otago Ethics Committee. A self-completion questionnaire (and reply-paid return envelope) was sent to

Corresponding to: Dr. Kathryn M S Ayers, Senior Lecturer, Department of Oral Sciences, Faculty of Dentistry, University of Otago, PO Box 647, Dunedin. E-mail: katie.ayers@mac.com

all dental therapists on the New Zealand Dental Council database. Questions sought information on respondents' demographic characteristics, current occupation and working practice, previous career breaks, continuing education and career satisfaction. A follow-up letter and duplicate questionnaire were sent to those who had not replied after three weeks.

Using a previously developed and utilised career satisfaction scale (Gibbons *et al.*, 2000; Naidu *et al.*, 2002), respondents were asked to rate their satisfaction with their work life on a ten-point scale, to provide a career satisfaction score. The scale consisted of the numbers 1 to 10 with written anchors at each end, where 1 = minimum satisfaction and 10 = maximum satisfaction. The scale was modified to measure income satisfaction in a similar fashion.

The responses received were entered onto an Excel database and analysed using the Statistical Package for the Social Sciences (SPSS; Version 11.0 for Mac OS X, SPSS Inc., Chicago, Il). To examine differences by age, dental therapists were divided into two age groups; less than 45 years and 45 or above. Chi-square tests were used for comparing proportions, while differences between means were examined using the independent samples t-test. The level of significance was set at $p<0.05$. Logistic regression modelling was used to examine the correlates of job satisfaction.

Results

Characteristics of the respondents

Questionnaires were sent to 711 dental therapists, but 28 were subsequently deemed to be out of frame (18 returned unopened, and 10 were dental assistants working within the SDS rather than therapists). Replies were received from 566, giving an effective response rate of 82.9%. Some respondents did not answer all questions.

There were 555 females (98.0%) and seven males (1.2%). The average age was 47.7 years (SD=8.8, range 21-70). Male dental therapists were, on average, younger than female dental therapists ($p<0.001$). The majority of dental therapists (553; 97.7%) had trained in New Zealand. Respondents were permitted to self-identify with more than one ethnic group: 526 (91.2%) were New Zealand European; 56 (9.9%) Maori; 7 (1.2%) Pacific Island, and 25 (4.4%) identified with another ethnic group. Many respondents (228, 40.3%) had childcare responsibilities, although older therapists were less likely to report childcare responsibilities then their younger colleagues ($p<0.001$). The mean time since qualification was 27.3 years (SD=9.9). Most respondents (514, 90.8%) held a Certificate in Dental Therapy. Approximately equal numbers held a Diploma in Dental Therapy (31, 5.4%) and an Advanced Dental Therapy Certificate or Diploma (35, 6.1%). Fourteen individuals (2.5%) held a University Degree.

Current working practice

Most respondents (512; 90.5%) were currently employed as dental therapists. Data on the working circumstances of these individuals are presented in Table 1. Almost all (494, 98.2%) were employed in the SDS. On average, younger therapists worked fewer hours per week (mean 32.8 hrs, SD=7.6) than their older colleagues (mean 34.4 hrs, SD=7.0; $p<0.05$). A larger proportion of younger (13; 8.5%) than older therapists (11; 3.1%) stated that they would like to increase the number of hours worked ($p<0.05$).

The clinical duties regularly performed by respondents are summarised in Table 2. A larger proportion of older than younger dental therapists reported regularly placing fissure sealants ($p<0.05$), and to be involved in peer appraisal/review ($p<0.05$) or team management ($p<0.05$).

Fifty-four respondents (9.5%) were not currently practising. Data relating to these respondents are presented in Table 3.

Career breaks

A career break was defined as any period taken away from work lasting longer than six weeks. The 54 respondents who were currently taking a career break were excluded and further 11 respondents did not answer this section. The majority of participants (412; 82.2%) had taken a career break. The mean time taken in career breaks per therapist was 6.5 years (SD=5.9). Respondents aged 45 years or over were more likely to have had a career break ($P<0.05$) and to have taken multiple career breaks ($p<0.05$). The most common reason for career breaks was child rearing (361 respondents, 87.6%). The mean length of time taken off for child rearing by older therapists (7.1 years, SD=1.7) was significantly greater than the time taken by younger therapists (4.8 years; SD=5; $p<0.01$). One-third of respondents (135; 32.8%) who had taken a career break had done so for a holiday or travel, but there were no differences in the length of these breaks by age. Forty-five respondents (8.8%) had taken a break due to personal illness (mean 4.5 months; SD=3.7).

Continuing education

The *Journal of the New Zealand Dental Therapists Association* and the *New Zealand Dental Journal* were the most popular professional journals, with 280 (54.7%) and 207 (40.4%) therapists respectively having read them within the previous three months. Older therapists were more likely to have read additional journals within the preceding quarter ($p<0.05$). Most respondents (311; 60.7%) had met the Dental Council continuing education target of 20 hours in the previous year. There were no differences in continuing education attendance by age.

Career satisfaction

Respondents were asked several questions regarding their career satisfaction (Table 4). The mean career satisfaction score was 7.1 (SD=2.0) and the median value was 8.0. Almost three-quarters of respondents had a career satisfaction score of seven or above. There were no differences in the degree of career satisfaction by age. The mean value of income satisfaction was 2.9 (SD=2.1) and the median value was two. Older respondents had a lower mean income satisfaction score (2.8; SD=2.1) than younger therapists (3.3; SD=2.2; $P<0.05$). More older (280; 80.7%) than younger (111; 72.5%) respondents had an income satisfaction scale score of less than 5 ($p<0.05$).

Table 1. Working circumstances of practising dental therapists by age-group[a] (brackets contain percentages)

	Age group of therapists		
	Less than 45 years (n=153)	*45 years or older (n=350)*	*All combined (n=503)*
Current employer [b]			
School Dental Service/DHB	153 (100.0)	341 (97.4)	494 (98.2)
Hospital dental department	1 (0.6)	6 (1.7)	7 (1.4)
Teaching institution	1 (0.6)	5 (1.4)	6 (1.2)
Other	1 (0.6)	9 (2.6)	10 (2.0)
Current role [b]			
Dental therapist	151 (98.7)	347 (99.1)	498 (99.0)
Dental assistant	0 (0.0)	2 (0.6)	2 (0.4)
Tutor/lecturer	2 (1.3)	7 (0.6)	9 (1.8)
Team leader/Manager	9 (5.9)	16 (1.1)	25 (5.0)
Other	3 (2.0)	4 (0.3)	7 (1.4)
Hours worked per week			
Mean	32.8	34.4	34.0 [c]
Standard deviation	7.6	7.0	7.2
Prefer to work			
Fewer hours	37 (24.2)	99 (28.3)	136 (27.0)
The same number of hours	97 (63.4)	237 (67.7)	334 (66.4)
More hours	13 (8.5)	11 (3.1)	24 (4.8) [c]
Did not state	6 (3.9)	3 (0.9)	9 (1.8)
Number of schools/clinics per year			
One -two	51 (33.3)	128 (36.6)	179 (35.6)
Three - four	60 (39.2)	131 (37.4)	191 (38.0)
Five or more	39 (25.5)	88 (25.1)	127 (25.2)
Did not state	3 (2.0)	3 (0.9)	6 (1.2)
Have a dental assistant			
Usually/Sometimes	84 (55.0)	192 (54.9)	276 (54.9)
Rarely/Never	68 (44.4)	157 (44.9)	225 (44.7)
Did not state	1 (0.6)	1 (0.2)	2 (0.4)
Holding a job of another type			
Yes	21 (13.7)	43 (12.3)	64 (12.7)
No	131 (85.6)	307 (87.7)	438 (87.1)
Did not state	1 (0.7)	0 (0.0)	1 (0.2)
No. of hours in this- (second) job			
Mean (SD)	9.1 (5.7)	8.8 (6.5)	8.9 (6.2)

a Therapists who did not state their age are not included, and some respondents did not answer all questions
b Some therapists had more than one employer and/or worked in more than one role
c $p<0.05$

More respondents with a high career satisfaction score were satisfied with their remuneration ($p<0.05$) and felt a valued part of the dental community ($p<0.01$) than those with a low career satisfaction score ($p<0.05$). The logistic regression model showed that, after controlling for age and income satisfaction, therapists who felt that they were valued members of the dental community always or most of the time had over four times the odds of having higher overall job satisfaction (Table 5).

Discussion

This study examined the working patterns and career satisfaction of dental therapists on the Dental Council of New Zealand's database in September 2004. A high response rate (82.9%) was achieved after two mailings. It was not possible to accurately determine how responders differed to those who chose not to participate in the study. However, the demographic details of the respondents

Table 2. Duties regularly performed by dental therapists in their working practice (brackets contain percentages). Some respondents did not answer all questions.

	Age group of therapists					
	Less than 45 years		*45 years or older*		*All combined*	
Dental health education	95	(62.5)	198	(58.6)	293	(59.8)
Dietary counselling	115	(76.7)	268	(79.3)	383	(78.5)
Fluoride application	97	(63.4)	243	(70.2)	340	(68.1)
Examination	152	(99.3)	347	(99.1)	499	(99.2)
Taking radiographs	78	(52.3)	170	(53.1)	248	(52.9)
Reading radiographs	85	(56.3)	197	(59.2)	282	(58.3)
Fissure sealant[a]	138	(90.2)	335	(95.7)	473	(94.0)
Local anaesthetic	150	(98.0)	347	(99.1)	497	(98.8)
Placement of restorations	150	(98.0)	345	(98.3)	495	(98.2)
Polishing of restorations	51	(34.2)	99	(29.1)	150	(30.7)
Pulpotomy	22	(15.2)	45	(14.4)	67	(14.6)
Direct pulp capping	63	(42.6)	158	(48.2)	221	(46.4)
Indirect pulp capping	88	(59.1)	193	(58.8)	281	(58.9)
Stainless Steel crown	0	(0.0)	5	(1.6)	5	(1.1)
Extraction of primary tooth	135	(88.2)	297	(85.6)	432	(86.4)
Extraction of permanent tooth	1	(0.7)	4	(1.3)	5	(1.1)
Temporary dressing	81	(53.6)	177	(50.9)	258	(51.7)
Other emergency treatment	47	(34.3)	127	(40.6)	174	(38.7)
Peer appraisal/peer review[a]	40	(26.8)	118	(36.0)	158	(33.1)
Clinical supervision	19	(13.0)	57	(17.9)	76	(16.4)
Clinical teaching	12	(8.1)	33	(10.5)	45	(9.7)
Team management/co-ordination[a]	14	(9.5)	58	(18.4)	72	(15.6)

[a] $p<0.05$

were found to be almost identical to those reported in the 2003 dental therapy workforce survey (Dental Therapy Technical Advisory Group, 2004) in which 80% were aged over 40, 91% were NZ European, and 98% were female. Estimates from the present study are 83%, 91% and 98% respectively. Thus, the sample can be considered to be representative of practising dental therapists in New Zealand. Individuals who have previously worked as a dental therapist but who had not applied for registration as a dental therapist (i.e were no longer practising dental therapy) were not able to be included in the study due to the extreme difficulty identifying and recruiting such individuals.

As expected, most respondents were employed as dental therapists within in SDS. Most dental therapists worked in more than one clinic, with one-quarter working in at least five. This reflects the new SDS delivery model, which utilises many school dental clinics for relatively brief periods over the year (Ministry of Health, 2003).

Because very few respondents were interested in working longer hours (and many more would prefer to do fewer hours), inviting therapists to work more hours may not be a viable option for increasing productivity of the workforce. However, there is potential for greater utilisation of assistants as almost half the respondents stated that they ‘rarely’ or ‘never’ used a dental assistant.

The main duties undertaken on a regular basis by therapists were basic services such as dental examinations, restorations, fissure sealants and removal of primary teeth. Some therapists performed pulpotomies (although pulp capping was a more frequent procedure), but the placement of stainless steel crowns was rare. The emphasis on dental health education was not as great as on basic restorative services, perhaps because therapists felt that it was more important to spend their time treating existing disease.

The dental therapists who participated in this study were actively involved in continuing education (journals and courses). This reflects commendable efforts by the profession and their employers to maintain fitness to practise.

Most respondents had taken at least one career break, with a total mean time taken of 6.5 years. This represents a considerable loss in ‘manpower’ hours. Older therapists had taken more time off than younger therapists, probably because they had been in the workforce for longer. As might be expected in a largely female workforce, child rearing was the predominant reason for taking breaks. The mean period taken off for this was longer for therapists in the older age group; this may be partly because the younger therapists have not yet finished having their families, but may also indicate that career breaks for child

Table 3. Information relating to respondents currently taking a career break, together with information on intentions to return to dental therapy (brackets contain percentages; n = 54)

	Practitioners currently on career break
Duration of current break	
< 1 year	16 (29.6)
1 to 5 years	10 (18.5)
> 5 years	15 (27.8)
No answer	13 (24.1)
Areas in which respondent previously worked [a]	
School Dental Service/DHB	48 (88.9)
Teaching Institution	1 (1.9)
Other	4 (7.4)
Never worked as a dental therapist	2 (3.7)
Currently in paid employment	
Yes	35 (64.8)
Dental assistant	12 (22.2)
Other dental job	13 (24.1)
Other job	10 (18.5)
No	19 (35.2)
Reason for current career break	
Personal illness	3 (5.6)
Family illness	1 (1.9)
Child rearing	9 (16.7)
To aid partner's career	1 (1.9)
Study	3 (5.6)
Travelling	1 (1.9)
Other	1 (1.9)
Not stated	35 (64.8)
Intend to return to dental therapy	
No	28 (44.4)
Yes	20 (37.0)
Within 12 months	6 (11.1)
Longer than12 months	4 (7.4)
Don't know when	10 (18.5)
No answer	6 (11.1)

[a] 1 therapist worked in more than 1 area

rearing are shorter now than previously. It is unknown how many choose not return to the workforce after raising children. Extended holiday or travel was another common reason for breaks, although their mean duration was much shorter than those for child rearing, and was similar for both age groups. Initiatives to reduce the length of career breaks taken by dental therapists could potentially increase workforce productivity. The availability of good-quality, affordable childcare is of prime importance in this respect, and the financial advantage of returning to work earlier must considerably outweigh the cost of the required childcare.

Career satisfaction

Career satisfaction in this study was relatively high (7.1 on a 10-point scale), and similar to that reported for UK dental therapists (mean score 7.3; Gibbons *et al.*, 2000). By contrast, dental nurses in Trinidad and Tobago were reported to have a mean career satisfaction score of only 5.2 (Naidu *et al.*, 2002). In this study, the scales for career satisfaction and income satisfaction were separated, revealing a large discrepancy between the two.

Newton and Gibbons (2001) reported age differences in career satisfaction among UK therapists, with lower satisfaction among younger therapists. They suggested that role conflict could adversely affect career satisfaction; dental therapists (mostly women) may experience substantial role conflict, given that many work part-time and have childcare responsibilities. No such association was found in the current study. The reason for this is unclear, although it may be that as NZ dental therapists take longer career breaks for child rearing, role conflict is minimised.

At variance with the high career satisfaction scores, it is concerning to note that well over half of the dental therapists surveyed stated that they did not feel that they were a valued part of the dental community. This may be related to the historical relationship between dentists and dental therapists in New Zealand. The School of Dentistry now trains dental auxiliaries alongside dental

Table 4. Dental therapists' career satisfaction, interests and intentions (brackets contain percentages). Some respondents did not answer all questions.

	Respondents aged less than 45 years	*Respondents aged 45 and over*	*Total (%)*
Career Satisfaction[a]			
Lower	72 (48.0)	168 (49.0)	240 (48.7)
Higher	78 (52.0)	175 (51.0)	253 (51.3)
Satisfaction with income[a]			
Lower	67 (43.8)	188 (54.2)	255 (51.0)
Higher	86 (56.2)	159 (45.8)	245 (49.0) [b]
Feel a valued part of dental community			
Always/Mostly	60 (39.5)	142 (41.0)	202 (40.6)
Sometimes/Seldom/Never	92 (60.5)	204 (59.0)	296 (59.4)
Interested in moving to private practice?			
Definitely/Maybe	100 (65.8)	170 (49.4)	270 (54.4) [b]
No	51 (33.6)	169 (49.1)	220 (44.4)
Already in private practice	1 (0.7)	5 (1.5)	6 (1.2)
Interested in treating adults?			
Definitely/Maybe	92 (60.1)	183 (52.9)	275 (55.1)
No	59 (38.6)	153 (44.2)	212 (42.5)
Already treating adults	2 (1.3)	10 (2.9)	12 (2.4)
Would choose to pursue dental therapy again			
Yes	66 (44.3)	155 (45.1)	221 (44.9)
No	83 (55.3)	189 (54.9)	271 (55.1)
Intentions to retire from dental therapy			
Less than 10 years	51 (36.2)	217 (63.6)	268 (55.6)
10 years or more	90 (63.8)	124 (36.4)	214 (44.4) [c]

[a] Divisions based on median split
[b] $p < 0.05$
[c] $p < 0.001$

Table 5. Logistic regression model for career satisfaction

Predictor	*Odds ratio (95% CI)*
Aged over 45 years	1.08 (0.73, 1.61)
Feel a valued part of the dental community	4.14 (2.78, 6.17)
Higher income satisfaction	0.52 (0.84, 1.83)

a Nagelkerke R2 = 0.15; Hosmer and Lemeshow test p = 0.65

students as part of a plan to better integrate the dental workforce. However, it will take time for what will be a major change in the professional culture of dentistry to come about. Also at variance with the high career satisfaction scores was the finding that over half the respondents indicated that they would not again choose to pursue a career in dental therapy. This may relate more to dissatisfaction with their income than to their overall career. The low mean score for income satisfaction indicates that most dental therapists (particularly those aged 45+) are unhappy with their current remuneration, suggesting that the current SDS salary scales do not allow for adequate progression for long-term employees. The Dental Therapy Technical Advisory Group (2004) identified remuneration as a contributor to the difficulties in recruiting and retaining dental therapists. Employers need to consider methods of improving dental therapists' income satisfaction. While incentives such as student loan repayments may be beneficial in recruiting and retaining recently qualified therapists, strategies to aid established

dental therapists are more limited. Seniority payments might be one mechanism, and could be combined with a clearer career structure and opportunities for further progression.

This study was conducted immediately prior to the implementation of the HPCA Act, which introduced the registration of dental therapists, allowed for an expansion of their scope of practice, and has enabled them to move to private practice. The current findings indicate that about half of therapists are interested in moving to private practice and extending their services to adults. Such a diaspora might benefit some adult groups, but it could be a serious threat to the viability of the SDS.

The finding that over half of the dental therapy workforce plans to retire within 10 years is of great concern from a planning perspective. The main reason for this relates to the age structure of this workforce. Considerable effort is required to maximise the 'manpower' hours from the existing workforce (reducing career breaks and keeping therapists in the profession), as well as promoting dental therapy as an attractive career to prospective students. There is a need to continue to monitor the dental therapy workforce to determine the longer-term effects of the HPCA Act, and to inform workforce planning.

Conclusion

Factors such as career satisfaction and remuneration are major contributors to the recruitment and retention of a workforce. These issues are critical in the school dental services in New Zealand as over 50% of the workforce plans to retire within 10 years. While dental therapists in this study had a relatively high mean career satisfaction, urgent efforts are required to improve their income satisfaction and to make therapists feel more valued.

Acknowledgements

The authors are grateful to the dental therapists who took part in the study. They also gratefully acknowledge the financial support of the New Zealand Dental Association Research Foundation.

References

Bader, J.D. and Sams, D.H. (1992): Factors associated with job and career satisfaction among dental hygienists. *Journal of Public Health Dentistry* **52**, 43-51.

Boyer, E.M. (1990): Job satisfaction among dental hygienists. *Journal of Dental Hygiene* **64,** 235-8.

Dental Therapy Technical Advisory Group/Ministry of Health (2004): *Recruitment and Practice of Dental Therapists.* Wellington, Ministry of Health.

General Dental Council (1998). *Professionals complementary to dentistry*. London: GDC.

Gibbons, D.E., Corrigan, M. and Newton, J.T. (2001): A national survey of dental hygienists: working patterns and career satisfaction. *British Dental Journal* **190,** 207-210.

Gibbons, D.E., Corrigan, M. and Newton, J.T. (2000): The working patterns and job satisfaction of dental therapists: findings of a national survey. *British Dental Journal* **189,** 435-438.

Jevack, J.E., Wilder, R.S., Mann, G. and Hunt, R.J. (2000): Career satisfaction and job characteristics of dental hygiene master's degree graduates. *Journal of Dental Hygiene* **74,** 219-29.

Lancaster, D.M. and Grogono, A.L. (1990): Career choice and satisfaction: a survey of dental school alumni. *Journal of the American College of Dentists* **57,** 29-35.

Logan, H.L., Muller, P.J., Berst, M.R. and Yeaney, D.W. (1997): Contributors to dentists' job satisfaction and quality of life. *Journal of the American College of Dentists* **64,** 39-43.

Ministry of Health (2003): *School Dental Service Facilities Discussion Document*. Wellington: Ministry of Health.

Moltzer, G., de Vree, R. and Tan, H.H. (1990): Job satisfaction among stayers and leavers of dental group practices in the Netherlands. *Community Dental Health* **7,** 421-8.

Naidu, R.S., Gobin, I., Ashraph, A., Newton, J.T. and Gibbons, D.E. (2002): The working practices and job satisfaction of dental nurses in Trinidad and Tobago: Findings of a national survey. *International Dental Journal.* **52,** 321-324.

Newton, J.T. and Gibbons, D.E. (2001): Levels of job satisfaction amongst dental healthcare professionals: Comparison of dental therapists, dental hygienists and dental practitioners. *Community Dental Health* **18**, 172-176.