A national survey of dental hygienists: working patterns and job satisfaction

D. E. Gibbons,¹ M. Corrigan,² and J. T. Newton,³

Objective To describe the working practices and level of job satisfaction of dental hygienists in the United Kingdom.

Design Postal questionnaire survey of 3,955 dental hygienists registered with the General Dental Council. Replies were received from 2,533 (64%).

Results At the time of the survey only a small proportion of respondents (11%) were not working as dental hygienists, the most common reason for a current career break being child rearing. The majority of dental hygienists (78%) were employed in general dental practices, and most worked in more than one practice (64%). Approximately half worked part-time (fewer than 30 hours per week), and part-time working was more common amongst those respondents with childcare responsibilities. In the region of 60% of respondents had taken one or more career breaks during their working life, and the average total duration of career breaks was 11 months, the most common reason for all career breaks was child rearing. Additional qualifications had been gained by 35% of the sample, a high proportion (75%) had attended training courses in the previous year. The respondents expressed a high degree of job satisfaction, those who were older and who had childcare responsibilities expressed higher levels of job satisfaction.

Conclusions Dental hygienists express a high level of job satisfaction. A proportion take breaks in their career, most commonly for pregnancy and child rearing. The majority return to part-time employment after their career break. Planning of future requirements for the training of professionals complementary to dentistry should be informed by a consideration of the working patterns of dental hygienists.

The career progression, working practices and job satisfaction of dental healthcare professionals has received increasing attention in the published literature.¹⁻⁴ The impetus for this has arisen from two sources; the recognition of the important role of professionals complementary to dentistry,⁵ and the necessity to consider the influence of changing work patterns upon human resource planning.^{6,7} This paper describes the working practices and job satisfaction of United Kingdom dental hygienists.

Previous research into the working practices of dental hygienists in the United Kingdom has taken place both nationally and locally. Round & Sheiham⁸ reported the findings of a survey of all dental hygienists registered with the General Dental Council in 1972 ($n = 636$). The survey was compromised by a low response rate

(39%). Just over half of the respondents (51%) worked in NHS practice, and 42% in mixed NHS and private practices. Approximately half of the respondents were working full-time, one third worked part-time, and the remainder were not employed as dental hygienists at the time of the survey. The most common reason given for career breaks was family commitments.

Evans & Blinkhorn,⁹ reported the findings of a survey of the 1980 GDC roll (at this time 1,236 hygienists were registered). Most respondents were employed in general dental practice, approximately one third of whom worked in more than one practice. The majority (87%) found their work fulfilling and interesting. Just over half of the respondents (55%) were working part-time. Approximately 20% were not working as hygienists; motherhood and home commitments were given as the main reasons for discontinuing employment.

A more recent national survey of dental hygienists was carried out in 1989.¹⁰ At this point there were 2,302 registered dental hygienists. In contrast to the high levels of job satisfaction expressed by respondents, less than two-thirds stated that they would choose dental hygiene as a career were they to have the choice again. Nonetheless, a high proportion of respondents were employed as dental hygienists at the time of the survey (84%), approximately half were working part-time. The most common reason for not working as a hygienist was pregnancy (50% of those not currently employed as a dental hygienist). A survey carried out by the British Dental Hygienists Association in 1994 (Bickley 1995, cited in Hillam⁴) reported high levels of job satisfaction among dental hygienists in the United Kingdom. Few (6%) reported difficulty in obtaining employment.

Hillam^{4,11} reviewed the career development of dental hygienists who had qualified from the Liverpool Dental Hospital School of Dental Hygiene in the periods 1977 to 1986, and 1977 to 1998. Expressed levels of job satisfaction were high in both studies. Hillam compared actual and desired working practices across cohorts qualifying at different times. After an initial period of underemployment the respondents quickly reached their optimum level, and then after a few years the majority opted for part-time employment (the main reasons given for this were pregnancy and childcare responsibilities).

Surveys of dental hygienists outside the United Kingdom report similar findings. Schou Tronjberg and Holst,¹² in Denmark, and Boyer^{13,14} in the United States report that most dental hygienists express high levels of job satisfaction, and that the major reason for taking a career break from dental hygiene is family responsibilities.

In summary, previous research suggests that dental hygienists express a great deal of job and career satisfaction. A proportion take career breaks, mostly for reasons of family commitments, however a large number remain in, or return to, the work force. Since the 1989 survey conducted by the BDHA an additional 2,183 dental hygienists have joined the register. Further, the role of dental hygienists as part of the dental healthcare team seems likely to change following the recommendations of the report of the General Dental Council on professionals complementary to dentistry.⁵ Such changes need to be undertaken in the light of knowledge of the current working practices and job satisfaction of the profession.¹⁵

¹Professor and Head of Department, ²Research Assistant, ³Senior Lecturer in Psychology in Relation to Dentistry, Department of Dental Public Health and Oral Health Services Research, Guy's, King's and Thomas' School of Medicine and Dentistry, Floor 18, Guy's Tower, Guy's Hospital, London SE1 9RT

*Correspondence to: J. T. Newton
email: tim.newton@kcl.ac.uk

REFEREED PAPER

Received 22.05.00; Accepted 30.10.00

© British Dental Journal 2001; 190: 207-210

Method

A questionnaire survey of all dental hygienists registered with the General Dental Council on the 1st January 1999 was carried out ($N = 3955$).

Questionnaire

The questionnaire developed for this study was based upon the adaptation of a questionnaire used in a recent survey of the career development of dental practitioners and dental therapists,¹⁻³ and a survey previously conducted by the BDHA.¹⁰ The questionnaire was pilot tested on a sample of dental hygienists, following which minor modifications were made to improve wording and clarity. The questionnaire included sections covering the following areas:

- Demographic characteristics of respondent.
- Current working practice (including place of employment and duties)
- Career breaks (including number of breaks, duration and reason for taking break)
- Continuing education
- Job satisfaction.

Procedure

A copy of the research questionnaire was sent to each participant, together with a cover letter explaining the purpose of the research and a reply paid envelope. Follow up mailings were planned should the response rate achieved in the initial posting fall below 60%. However the response rate from the initial posting was judged to be sufficient to ensure the representativeness of the sample.

Results

Characteristics of the respondents

Replies were received from 2533 dental hygienists (response rate 64%). Of these, 12 questionnaires were returned without having reached the intended recipient because the registered address was inaccurate.

Respondents comprised 2,478 females (98.3%) and 43 males (1.7%). The average age of the hygienists was 37.9 years ($sd = 8.7$). Just under half of the respondents indicated that they had childcare responsibilities (1,223 individuals, 49%). Additional qualifications had been gained by 880 respondents (35%) since their first registration as a dental hygienist, the most common being the Certificate in Dental Health Education (42% of those who had gained an additional qualification) and the Further Adult Education Teaching Certificate (26%). There were 82 respondents (3% of all respondents) who were also qualified as dental therapists. On average it was 14.7 years ($sd = 9.7$) since the respondents had qualified as dental hygienists.

Information on the geographic location of qualified dental hygienists is not routinely collected, however the year in which individuals first register is collected. Around 33.5% of respondents had qualified after 1990, in comparison the proportion of hygienists who first registered with the General Dental Council after 1990 is 43.5%. This would suggest that the sample under-represents the most recently qualified hygienists, unless incentives for registration were introduced in 1990 resulting in a large number registering at that time. The proportion of male dental hygienists registered with the GDC is 2.4%, which is slightly higher than the proportion of males among the respondents.

A total of 2,251 (89%) were currently working as hygienists. The majority of those not currently working as hygienists had worked as hygienists in the past (195 respondents, 97% of those not currently working as hygienists). The average number of years between qualification and ceasing to work as a hygienist was 11.9 years (median 10, $sd = 11.0$). Of those respondents not currently working as a

dental hygienist, 71 were in paid employment at the time of the survey. Of those who were not in paid employment at the time of the survey, the most common reason they gave for their career break was child rearing (91 respondents, 71% of those taking a career break). Other reasons for taking a career break were less frequently indicated, the next largest grouping being 19 respondents who were taking a career break for reasons of personal illness.

All descriptions of findings from this point forward are concerned only with those respondents who are currently practising as dental hygienists ($n = 2,251$).

Current working practice

As might be expected, the majority of those working as dental hygienists were employed in general dental practice (1,762 individuals, 78%). Table 1 summarises the types of establishment in which the respondents worked. A sizeable proportion are employed in private practice (47%). Working in more than one setting was common (1449 respondents worked in more than one setting, 64%).

Respondents were asked to indicate in broad terms the nature of their duties in their current employment. Table 2 shows the main areas of responsibility identified (respondents could indicate more than one area of responsibility). A large proportion of respondents identified that they had clinical responsibilities, and just over one third identified a role as a dental health educator. Other roles, including practice management and research, were much less commonly identified.

Part-time working was defined as fewer than 30 hours per week. Just over half the respondents worked part-time by this definition (1,165 individuals, 52%). Part-time working was more common amongst those with childcare responsibilities, 79% of those with childcare responsibilities worked part-time compared with 29% of those without such responsibilities (Chi-squared = 482.9).

For those dental hygienists who were treating patients, the majority did not have the assistance of a dental nurse for most or all of their patients (respondents, 70% of those who treated patients). There was, however, a sizeable group (21%) who reported having nursing assistance for all their patients.

Respondents were asked to indicate from a list of specific duties

Table 1 Type of establishment in which respondents were employed. Respondents were free to indicate more than one establishment, therefore percentages do not total 100

Type of establishment	Number of respondents (%)
School of dental hygiene	67 (3%)
General dental practice (NHS)	702 (31%)
General dental practice (private)	1060 (47%)
General dental practice (mixed)	1319 (59%)
Hospital dental service	120 (5%)
Community dental service	98 (4%)
Armed forces dental service	60 (3%)
Industry	27 (1%)
Research	16 (1%)
Overseas	25 (1%)
Other	65 (3%)

Table 2 Numbers and percentage of respondents identifying broad areas of work responsibility. Respondents were free to indicate more than one area of responsibility, therefore percentages do not total 100

Area of responsibility	Number of respondents (%)
Clinician	2150 (95.5%)
Dental Health Educator	1230 (54.5%)
Researcher	81 (3.6%)
Practice Manager	40 (1.8%)
Other	184 (8.2%)

Table 3 Duties performed by dental hygienists in their working practice. Identifying duties which respondents had been asked to undertake and those which are routinely undertaken

	Regularly undertake n (%)	Ever been asked to undertake but do not regularly undertake n (%)
Fissure sealants	1554 (69%)	538 (24%)
Fluoride application	855 (38%)	755 (34%)
Dental health education	2041 (91%)	98 (4%)
Polishing amalgams	488 (22%)	752 (33%)
Taking radiographs	189 (8%)	402 (18%)
Suture/pack removal	70 (3%)	432 (19%)
Curettage	849 (38%)	247 (11%)
Placing or removing orthodontic wires/bands	24 (1%)	124 (6%)
Taking impressions	40 (2%)	219 (10%)
L.A.	1420 (63%)	372 (17%)
CPITN	1647 (73%)	253 (11%)
Any other		
periodontal index	1429 (63%)	226 (10%)
Dietary counselling	1786 (79%)	191 (9%)
Placing of dressing	134 (6%)	503 (22%)
Emergency treatment without dentist's prescription	36 (2%)	234 (10%)

Table 4 Number of dental hygienists who have taken a career break grouped according to the reason cited for the career break. (Percentages are calculated as a function of the number of respondents who took a career break, 1,316 respondents)

Reasons for career break	Dental hygienists n (%)
Child rearing	1059 (80%)
Personal illness	163 (12%)
Taking up another career	124 (9%)
Travelling	124 (9%)
Study	48 (4%)
Family problems	22 (2%)
Family illness	19 (1%)
Financial problems	3 (<1%)
Full time carer	1 (<1%)

those which they had been asked to undertake, or regularly undertake in the course of their work. This list included both duties which are currently legal for dental hygienists to perform and those which are not currently permitted. The number and proportion of respondents who indicated performing each specific task is shown in Table 3.

Career breaks

Respondents were asked to indicate whether they had taken breaks in their career since qualifying as a dental hygienist. A career break was defined as any period of time which they had taken away from work which lasted longer than one month. Sixty per cent of the sample had taken at least one career break. The average total length of career break of those who had taken one or more career break was 30 months ($sd = 52.1$ months), though these data were highly skewed, the median value being 11 months. The most common reason for a career break was child rearing with 1059 responses (80% of those who had taken a break). Table 4 shows the reasons given by people for their taking a career break.

Continuing education

Dental Health was the most popular professional journal among dental hygienists with 1,637 people (73%) having read it in the last 3 months. the *British Dental Journal*, *The Probe* and *Dental Practice* were also popular choices. Table 5 shows the total number of respondents who reported reading various professional journals.

Just under three-quarters of the respondents had attended a training course of at least one day's duration in the last year. Of those who had been on a training course 896 (41% of course attenders) spent between 2 and 4 days on training courses in the previous year. The most common type of course attended by dental hygienists took the form of a scientific meeting (1261 people, 78% of course attenders). Table 6 shows a breakdown of the time spent at training days and the type of course attended.

Job satisfaction

Respondents were asked to rate their satisfaction with their work life on a ten point scale with anchors of 1 = minimum satisfaction and 10 = Maximum satisfaction. Levels of job satisfaction were high, 1,178 respondents (52%) rated their job satisfaction at a score of 8 or more. The mean value of job satisfaction was 7.25 ($sd = 1.75$), the median value was 8. Levels of job satisfaction were compared using the Mann-Whitney U test for the following groups: dental hygienists with and without childcare responsibilities; dental hygienists above and below the median age of the sample; part-time versus full-time dental hygienists. Small but statistically significant differences in job satisfaction were found between hygienists with and without childcare responsibilities and for age groups. Dental hygienists above the median age of the sample (37 years) were on average more satisfied with their work life (mean value of job satisfaction for hygienists aged 38 and over=7.4 ($sd = 1.7$); hygienists aged 37 and under, mean = 7.2 ($sd = 1.8$); $P < 0.001$). Those with childcare responsibilities were more satisfied (mean = 7.4, $sd = 1.7$) than those without such responsibilities (mean = 7.2, $sd = 1.8$).

Discussion

The respondents expressed high levels of job satisfaction (though it should be remembered that a small number, 3.8%, expressed very low levels of satisfaction — a score of 3 or less). Respondents who were older and who had childcare responsibilities expressed significantly higher levels of satisfaction, though the magnitude of such differences was small. This may represent a selection bias in those who choose to return to work following childbirth, or attrition of less satisfied hygienists over time. The 40% of hygienists registered with the General Dental Council who did not respond to the survey may have included a larger proportion of dissatisfied hygienists. However the findings reported here do corroborate previous studies, similar findings have been reported in surveys of dental hygienists both within the UK and abroad,⁹⁻¹³ and amongst dental therapists.³ Generally the job satisfaction of female dental practitioners has been low.¹⁶

A commitment to continuing education and personal development was evident (echoing the findings of the BDHA national survey)¹⁰. With the introduction of expanded roles for professionals complementary to dentistry, clinical governance and postgraduate

Table 5 Number (and proportion) of dental hygienists who report reading particular professional dental journals. (NB respondents could report reading more than one professional journal, therefore percentages do not total 100)

Journal	Number of Respondents (%)
<i>The British Dental Journal</i>	1267 (56%)
<i>Dental Practice</i>	1028 (46%)
<i>Dental Health</i> (Journal of the BDHA)	1637 (73%)
<i>The Probe</i>	1055 (47%)
<i>Dental Update</i>	762 (34%)
<i>The Dentist</i>	544 (24%)
<i>The Hygienist</i>	518 (23%)
Other	272 (12%)
(included various newsletters but no answer with a frequency greater than 3 respondents)	

Table 6 Attendance at training courses by dental hygienists and type of course attended within the previous 12 months

	Number of respondents (%)
<i>Number of days spent in attending training courses in the previous year</i>	
None	566 (25%)
1 day	405 (18%)
2 to 4 days	896 (40%)
5 to 10 days	249 (11%)
11 or more days	64 (3%)
Missing	71 (3%)
<i>Type of course attended*</i>	
Further Dental Education course	569 (35%) [†]
Refresher course	331 (21%) [†]
Scientific meeting	1261 (78%) [†]
Other	326 (20%) [†]
<i>(included a variety of courses, none achieving a frequency of more than 3 respondents aside from; CPR training 20 respondents, 1%[†]; BDHA meetings 22 respondents 1%[†])</i>	

*Respondents could report attending more than one type of meeting.

[†]Percentage calculated as proportion of respondents who reported attending one or more postgraduate meeting in the previous year, 1614 respondents

training will become increasingly important. Dental hygienists appear to be a group who are willing to undertake such development. However it should be borne in mind that non-respondents may have included a large proportion of individuals with a low interest in their profession, and the attainment of further qualifications or continuing education. These findings should be placed in the context of previous research examining the career progression of women working in dental healthcare settings and the development of professionals complementary to dentistry.

The number of dental hygienists registered with the GDC is expanding. This expansion in numbers has brought some change in working patterns. The majority of dental hygienists work in general practice, but the proportion who are employed solely in one practice has decreased. Previous national surveys estimated that just over 50% of dental hygienists worked in more than one setting (¹⁰, Bickley cited in reference 4), the present data suggest the figure is 64%.

The present study presents data on career breaks from two sources: those taking a career break at the time of the survey, and lifetime experience of career breaks for respondents working as hygienists at the time of the survey. The proportion identified as taking a career break is lower than that previously reported in national surveys,^{9,10} though this may reflect the gradual increase in the proportion of older hygienists registered. Taking the respondents as a whole, 60% had taken a career break at some point during their working life. This figure is comparable to other female dental healthcare professionals.^{1,3} These findings have implications for the planning of dental personnel requirements, especially if the role of

dental hygienists is expanded.⁵⁻⁷ The high proportion of dental hygienists employed in private practice is also important to consider in the planning of personnel requirements. Just under half of those who qualify as dental hygienists can be expected to work in private practice, though not necessarily exclusively. It seems probable that the decision to undertake private practice is driven by financial considerations.

A number of weaknesses can be identified in the wording of the questionnaire. Respondents were asked to indicate the number of different 'establishments' in which they worked. The meaning of this term was not clear and may have been taken by respondents to refer to either different types of establishment or to different addresses (which may have been the same type of establishment, for example two dental practices). Similarly respondents were left to use their own definitions of terms such as 'clinician' — some may have understood this to encompass a broader range of duties and patient contact than other respondents. Further the finding that a relatively large number of dental hygienists report gaining the certificate in Dental Health Education since qualifying as a hygienist is surprising, and may reflect a misunderstanding of the question. Respondents may be indicating their qualifications *per se* and not those gained since qualification. Such difficulties could be overcome by the use of interviewing techniques or by the careful definition of terms in the questionnaire format.

- 1 Newton J T, Thorogood N, Gibbons D E. A survey of the career development of male and female dental practitioners. *Br Dent J* 2000; 188: 90-94.
- 2 Newton J T, Thorogood N, Gibbons D E. The work patterns of male and female dental practitioners. *Int Dent J* 2000; 50: 61-68.
- 3 Gibbons D E, Corrigan M, Newton J T. The working patterns and job satisfaction of dental therapists: Findings of a national survey. *Brit Dent J* 2000; 189: 435-438.
- 4 Hillam D G. A survey of hygienists qualifying from the Liverpool School of Dental Hygiene 1977-1998. *Br Dent J* 2000; 188: 150-153.
- 5 General Dental Council. *Professionals Complementary to Dentistry*. London, GDC. 1998.
- 6 Try G. Too Few Dentists? Workforce planning 1996-2036. *Primary Dent Care* 2000; 7: 9-13.
- 7 Chaudhry Z & Scully C. Dental manpower: many questions, weak data and inadequate answers. *Br Dent J* 1998; 184: 432-436.
- 8 Round A, Sheiham A. Report on dental hygienists. *Dent Health* 1973; 13: 17-20.
- 9 Evans C L & Blinkhorn A S. A national survey of dental hygienists. *Br Dent J* 1982; 153: 309-310.
- 10 BDHA *National Survey of Dental Hygienists in the United Kingdom*. London: BDHA. 1989.
- 11 Hillam D G. Career patterns of dental hygienists qualifying from the Liverpool Dental Hospital School of Dental Hygiene. *Br Dent J* 1989; 166: 310-311.
- 12 Schou L, Tronjberg C & Holst I. A national survey of dental hygienists in Denmark. *Community Dent Health* 1986; 3: 91-98.
- 13 Boyer E M. Dental hygiene job and career satisfaction. *Dent Hygiene* 1988; April: 170-175.
- 14 Boyer E M. Factors related to career retention among dental hygienists. *J Dent Hygiene* 1994; 68: 68-74.
- 15 Boyer E M. Job changes by dental hygienists. *Dent Hygiene* 1990; June: 235-238.
- 16 Cooper C I, Watts A, Kelly M. Job satisfaction, mental health, and job stressors among general dental practitioners in the UK. *Br Dent J* 1987; 24: 77-81.