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A Abu Bakar
NA Mohd Nor
N Ab-Murat
N Jaafar

Job satisfaction and perceived future roles of Malaysian dental therapists: findings from a national survey

Authors' affiliations:
A Abu Bakar, Oral Health Division, Ministry of Health, Putrajaya, Malaysia
NA Mohd Nor, N Ab-Murat and N Jaafar, Faculty of Dentistry, Department of Community Oral Health & Clinical Prevention, University of Malaya, Kuala Lumpur, Malaysia

Correspondence to:
Dr N.A. Mohd Nor
Department of Community Oral Health & Clinical Prevention
Faculty of Dentistry
University Malaya
Kuala Lumpur 50603
Malaysia
Tel.: +00603 79674805
Fax: +00603 79674532
E-mail: azlida@um.edu.my

Abstract: *Objective:* To assess Malaysian dental therapists' perceptions of their job satisfaction and future roles. *Methods:* A nationwide postal survey involving all Malaysian dental therapists who met the inclusion criteria (n = 1726). *Results:* The response rate was 76.8%. All respondents were females; mean age 35.4 years (SD = 8.4). Majority were married (85.5%) and more than one-half had a working experience of <10 years (56.1%). Majority worked in community dental service (94.3%) and in urban areas (61.7%). Overall, they were highly satisfied with most aspects of their career. However, they were least satisfied with administrative workload (58.1%), career advancement opportunities (51.9%) and remuneration package; specifically income (45.2%), allowances (45.2%) and non-commensurate between pay and performance (44.0%). Majority perceived their role as very important in routine clinical tasks such as examination and diagnosis, preventive treatment, extraction of deciduous teeth and oral health promotion. However, fewer than one-half consider complex treatment such as placement of preformed crowns on deciduous teeth (37.1%) and extraction of permanent teeth (37.2%) as very important tasks. *Conclusion:* Majority expressed high career satisfaction with most aspects of their employment but expressed low satisfaction in remuneration, lack of career advancement opportunities and administrative tasks. We conclude that most Malaysian dental therapists have positive perceptions of their current roles but do not favour wider expansion of their roles. These findings imply that there was a need to develop a more attractive career pathway for therapists to ensure sustainability of effective primary oral healthcare delivery system for Malaysia's children.

Key words: dental services; dental therapists; job satisfaction

Introduction

Job satisfaction can be defined as individual's contentment towards their job (1), which can be brought about by a complex interplay of tasks, roles, responsibilities, interactions, incentives and rewards (2, 3). The level of job satisfaction can affect their performance, productivity and overall life satisfaction (4–6). Employees with high job satisfaction tend to be more productive, creative and committed to their employers (3), while those with low job satisfaction often experience higher stress levels, which can lead to burnout and a premature end to their career (2). Many studies have reported that job satisfaction among dental therapists was generally high (4–8). However, there were still areas of dissatisfaction specifically over remuneration packages, aspects of the work environ-

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ment, patient-related factors, job scope (4, 9) and career and promotion opportunities (5). Generally, dental therapists working in the public sector reported a higher level of job dissatisfaction as compared to their counterparts who worked in private practice. This could be related to inflexible working hours, lack of career and promotion opportunities, high workload and relatively inadequate pay in the public sector (9). This situation is likely to result in a high level of attrition among these professionals (5).

One of the contributing factors of low job satisfaction could be the repeated or unvarying assignment of tasks that require a significantly lower level of skill than one is qualified for. Dental therapists with low levels of job satisfaction often reported that the opportunities to practise their clinical skills were limited and that they were unable to fully utilize their abilities in delivering oral health service to the population (7, 10). Recently, there were proposals to expand dental therapists' role in the clinic as well as in health promotion (7, 11, 12). In the UK, the dental therapists' role has been expanded where they are now allowed to carry out routine clinical intervention such as pulpotomy, place stainless steel crowns in deciduous teeth and administer inferior dental block (13). They are also allowed to treat adult patients and work in private practice (13). Similarly, dental therapists in New Zealand are also allowed to provide care for adults (14) and those who graduated with an additional dental hygienist degree are allowed to work in both public and private settings (15). In Minnesota, USA, dental therapists have expanded roles for oral health care of underserved populations and are allowed to conduct extractions of mobile permanent teeth and prescribe medication as necessary (7). The expansion of their roles corresponded to changes in the global epidemiology of dental diseases (10) and is likely to shift oral health care more decisively towards prevention, in line with the orientation of the dental therapists' professional training (16).

In Malaysia, the scope of services of dental therapists' has been reviewed and a new Dental Bill was proposed in 2012 to upgrade the status of Malaysian dental therapists (17). Some of the proposed changes include changing their professional title from 'dental nurse' to 'dental therapists', the establishment of a National Dental Therapists' Register (thus making registration mandatory by law under the Malaysian Dental Council), legislation to facilitate the expansion of their job scope and to allow them to work in private practice. However, the proposal has been put on hold because of unforeseen circumstances. Nevertheless, the changes put forward in the dental bill shows a positive development towards enhancing dental therapists' role and skills to support primary health care.

The Malaysian dental therapist career pathway divides dental therapists into two groups: clinical dental therapists (Grade U29) and administrative dental therapists (Grade U32 and above); however, both are only allowed to serve in the public health services. Administrative roles cover management of dental personnel and planning community oral health programmes, while clinical dental therapists perform routine clinical duties such as examination and diagnosis; fluoride therapy, fissure sealants and dietary counselling; non-complex restoration of primary and permanent teeth, scaling and polishing; and extraction of primary teeth in children under 17 years of age (18, 19). Thus, the proposed expansion of job scope is timely as the recent National Oral Health Survey of schoolchildren and adults has shown different trends (20, 21). While caries status has declined dramatically in children, periodontal health has not improved very much. In adults, the need for preventive maintenance and rehabilitative care over the age of 40 years and among the elderly and disadvantaged remained very high. Therefore, the therapists' roles need to be redefined to ensure that appropriate skills and services are relevant to meet the future needs of the Malaysian population.

However, we do not have evidence about the perceptions of the current cohort of dental therapists and what they think their future roles should be. Therefore, the aim of this survey was to assess perceived job satisfaction among dental therapists working in the Ministry of Health, Malaysia, and their perceptions about their future roles. This information would be valuable to guide future manpower policies to enhance their job scope and career opportunities to meet the primary oral healthcare needs of the Malaysian population.

Study population and methods

This was a cross-sectional survey conducted using a self-administered postal questionnaire involving all eligible dental therapists working in the Public Health Service of the Ministry of Health, Malaysia. The inclusion criteria were dental therapists aged between 25 and 50 years old who were in active service. The purpose of limiting the age range was to ensure that there was a fair representation of junior and senior dental therapists with relevant and most current working experience in the public sector. The exclusion criteria were retired dental therapists working on contract basis and those working in universities because of differences in their job scopes.

The questionnaire was divided into four parts; where each question was rated on a 10-point Likert scale. Part A consisted of three questions pertaining to the respondent's demographical profile (age, marital status, number of children). Part B consisted of six questions related to their employment (grade in service, working experience, post-basic qualifications, location of practice and their current posting). Part C consisted of 17 job satisfaction questions (pertaining to remuneration, career development prospects, working environment, employment scheme, fringe benefits and their overall satisfaction). Part D consisted of 34 items on their current and future roles (divided into four categories namely their clinical skills, oral health promotion activities, administration work and the aspects of the dental team where they are located). Details of Part D of the questionnaire have been described elsewhere (19).

The questionnaire was face-validated by three dental public health experts in the Ministry of Health, Malaysia. Their feedback resulted in minor amendments to the questionnaire, and this version was pretested on ten dental therapists who were

excluded from the main study. The final questionnaire was mailed together with a research information sheet, a consent form and a return addressed postage-paid envelope. Participants were asked to respond within 2 weeks of receiving the questionnaire. A follow-up mail was sent to non-responders 3 weeks after the first questionnaire.

Ethical approval for the study was obtained from the Medical Research Ethics Committee of University of Malaya. Permission to conduct the study on Malaysian therapists was granted by the Senior Director of the Malaysian Oral Health Division. The State Director of Health (Dental Division) in all the 15 states in Malaysia assisted in distributing the questionnaire to all the dental therapists.

Statistical methods

Data were analysed using SPSS software version 15.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics was used to analyse the study objectives. During analysis, the ten-point scale was reclassified into three categories; scale 1–4 as 'dissatisfied' or 'not important', 5 as 'neither' ('neither satisfied nor dissatisfied' or 'neither important nor unimportant') and 6–10 as 'satisfied' or 'very important'.

Results

At the time of data collection, 2090 dental therapists were registered with the Ministry of Health, Malaysia, of which 1726 met the inclusion criteria. Of these, 1325 dental therapists responded to the questionnaire (response rate 76.8%).

Table 1 shows the socio-demographical distribution of the sample. The age of respondents ranged from 25 to 50 years with the mean of 35.4 (SD = ±8.4) years old. All were females. The majority were married (85.5%) and had three or fewer children (73.9%). The majority (94.2%) held clinical posts, with more than one-half (56.1%) having worked for 10 years or less. The mean duration of working experience was 11.6 years (SD = ±9.3). About 10% had a post-basic certificate qualification. The majority of them (94.3%) worked in community dental services, which include clinics in health centres, main dental clinics, school dental service and mobile dental clinics. More than one-half were based in urban areas (61.7%). More than one-half (57.3%) had applied for their current posting place by their own choice, while the remaining (42.7%) had been posted by the administration.

Table 2 shows the respondents perceived satisfaction in various aspects of their jobs. Overall, the majority (84.3%) were satisfied with their job. The biggest driver of their satisfaction was their 'capability to be helpful to the patient' (95.3%), followed by their 'capability to provide quality of care to the patient' (95.1%) and 'relationship with patients' (94.6%). On the other hand, the respondents were least satisfied in the areas of administrative/paperwork workload (58.1%), career opportunities (51.9%), income (45.2%), allowances (35.3%) and the perceived non-commensuration between pay and performance (44.0%).

Table 1. **Demographical characteristic and working profile in sample of dental therapists working in Ministry of Health, Malaysia (*N* = 1325)**

Demographical characteristic and working profile	Respondents *N* (%)
Demographical characteristic	
Grade	
U29 (clinical)	1243 (94.2)
U32 and above (administrative)	77 (5.8)
Age group	
25–34 years old	692 (52.7)
35–50 years old	624 (47.3)
Marital status	
Single	164 (12.4)
Married	1127 (85.5)
Separated/widowed/divorced	27 (2.0)
Number of children group	
3 and below	774 (73.9)
More than 3	273 (26.1)
Working profile	
Working experience	
10 years and below (junior)	724 (56.1)
More than 10 years (senior)	567 (43.9)
Post-basic holder	
Yes	136 (10.3)
No	1184 (89.7)
Practice location	
Hospital	42 (3.2)
Headquarters office	33 (2.5)
Community dental service (main dental clinic/dental clinic in health centre/school dental squad/mobile dental clinic)	1246 (94.3)
Current work placement area	
Urban	810 (61.7)
Rural	502 (38.3)
Current posting status	
Applied	750 (57.3)
Was posted	558 (42.7)

Proportions and totals may vary due to missing data in some questions.

Table 3 shows the dental therapists' perceptions of their future clinical roles. The items that were perceived as being 'very important' were the clinical roles items currently being performed by dental therapists in Malaysia. These were examination and diagnosis (97.4%), preventive treatment (95.5%) and non-surgical periodontal treatment (88.9%), and extraction of deciduous teeth (73.6%). The clinical roles not currently permitted for dental therapist were mostly perceived as 'neither important nor unimportant' or 'not important' except for the item 'amalgam and composite restoration of primary and permanent teeth in children and adults' of which the majority of dental therapists (88.9%) perceived as 'very important'.

Table 4 shows the dental therapist perceptions on their future role in oral health promotion, administration and in the dental teams within which they operate. The proportion of dental therapists who gave 'very important' ratings to the oral health promotion items was directly related to the complexity of the oral health promotion activities in question. The majority of dental therapist perceived their role in basic oral health

Table 2. **Job satisfaction of dental therapists working in Ministry of Health, Malaysia (*N* = 1325)**

How satisfied are you with	Not satisfied *N* (%)	Neither *N* (%)	Satisfied *N* (%)	Mean score (SD)
Remuneration				
Income as dental therapist	468 (35.3)	258 (19.5)	599 (45.2)	5.3 (±2.2)
Allowances	631 (47.6)	226 (17.1)	468 (45.2)	4.7 (±2.2)
Connection between pay related to your performance	467 (35.2)	260 (20.8)	583 (44.0)	5.3 (±2.0)
Career development				
Career opportunities	362 (27.3)	275 (20.8)	688 (51.9)	5.6 (±2.1)
Possibility to improve your professional skills	218 (16.5)	237 (17.9)	870 (65.7)	6.3 (±1.9)
Working environment				
Physical working environment	275 (20.8)	221 (16.7)	829 (62.6)	6.1 (±2.0)
Team spirit in your work environment	86 (6.5)	147 (11.3)	1089 (82.2)	7.2 (±1.7)
The guidance from direct supervisor	107 (8.1)	221 (16.7)	997 (75.2)	6.7 (±1.7)
Time for professional contact with colleagues	147 (11.1)	231 (17.4)	947 (71.5)	6.5 (±1.9)
Your relationship with patients	16 (1.2)	56 (4.2)	1253 (94.6)	7.9 (±1.3)
Your relationship with your colleagues	48 (3.6)	100 (7.5)	1177 (88.8)	7.7 (±1.6)
Employment scheme				
Capability to provide quality care to the patient	11 (0.8)	54 (4.1)	1260 (95.1)	7.9 (±1.3)
Capability to be helpful to the patient	12 (0.9)	50 (3.8)	1263 (95.3)	8.1 (±1.3)
The workload of administrative and paperwork	329 (24.8)	226 (17.1)	770 (58.1)	6.0 (±2.2)
Capability to provide services to the community	26 (2.0)	151 (11.4)	1148 (86.6)	7.3 (±1.5)
Fringe benefit				
Fringe benefits provided to you	217 (16.4)	203 (15.3)	905 (68.3)	6.5 (±2.1)
Overall satisfaction				
Your job as a whole	35 (2.6)	173 (13.1)	1117 (84.3)	7.3 (±1.5)

Proportions and totals may vary due to missing data in some questions.

Table 3. **Malaysian dental therapists' perceptions of their future clinical roles (*N* = 1325)**

Future clinical roles of dental therapist	Not important *N* (%)	Neither important nor unimportant *N* (%)	Very important *N* (%)	Mean score (SD)
Clinical roles				
Routine clinical roles				
Examination and diagnosis*	8 (0.6)	36 (2.7)	1280 (96.7)	8.8 (±1.9)
Extraction of deciduous teeth*	120 (9.1)	229 (17.3)	976 (73.6)	8.4 (±1.6)
Preventive treatment (fissure sealant, fluoride application)*	17 (1.3)	43 (3.2)	1265 (95.5)	8.7 (±1.5)
Basic periodontal treatment*	50 (3.8)	97 (7.3)	1178 (88.9)	8.0 (±1.8)
Restorations of primary and permanent teeth in children* and adults (all amalgam and composite restorations)	21 (1.6)	59 (4.5)	1245 (93.9)	8.4 (±1.6)
Placement of preformed crowns on deciduous teeth	470 (35.5)	363 (27.4)	492 (37.1)	5.0 (±2.4)
Complex clinical roles				
Pulp therapy	235 (17.7)	285 (21.5)	805 (60.8)	6.1 (±2.4)
Aesthetic dentistry (i.e. veneer, crown)	259 (19.5)	304 (22.9)	762 (57.6)	6.1 (±2.9)
Extraction of anterior permanent teeth in children below 17 years old	463 (34.9)	357 (26.9)	505 (37.2)	5.1 (±2.6)
Extraction of posterior permanent teeth in children below 17 years old	382 (28.8)	326 (24.6)	617 (46.6)	5.6 (±2.6)
Suture sockets, management of post-extraction bleeding and minor wounds	293 (22.1)	259 (19.5)	773 (58.4)	6.2 (±2.7)
Incision and drainage	304 (22.9)	331 (25.0)	690 (52.1)	5.8 (±2.5)
Treatment of patients under conscious sedation (under dentist supervision)	340 (25.7)	337 (25.4)	648 (48.9)	5.7 (±2.5)
Give sedation to identified patient (under dentist supervision)	333 (25.1)	334 (25.2)	658 (49.7)	5.7 (±2.5)

*Clinical roles that are currently permitted to the Malaysian dental therapists (17, 19, 22).
Total may not equal to *N* = 1325 due to missing values in some questions.

Table 4. **Malaysian dental therapists' perceptions of future roles in oral health promotion, administration and the dental team (*N* = 1325)**

Roles of dental therapist	Not important *N* (%)	Neither important nor unimportant *N* (%)	Very important *N* (%)	Mean (SD)
Oral health promotion				
Deliver Oral Health Education to:				
a) Toddlers*	43 (3.2)	75 (5.7)	1207 (91.1)	8.4 (±1.8)
b) Preschoolers*	4 (0.3)	20 (1.5)	1301 (98.2)	8.9 (±1.3)
c) Primary school children*	2 (0.2)	15 (1.1)	1308 (98.7)	9.1 (±1.2)
d) Secondary school children*	64 (4.8)	135 (10.2)	1126 (85.0)	8.0 (±2.0)
e) Antenatal mothers*	242 (18.3)	19 (15.0)	884 (66.7)	7.0 (±2.8)
f) Adults*	278 (21.0)	220 (16.6)	827 (62.4)	6.6 (±2.8)
Motivate children, parents and teachers in oral healthcare*	40 (3.0)	84 (6.3)	1201 (90.6)	8.2 (±1.7)
Conduct seminar to carers, preschool and teachers*	108 (8.2)	175 (13.2)	1042 (78.6)	7.4 (±2.2)
As a diet and nutrition counsellor*	77 (5.8)	137 (10.3)	1111 (83.8)	7.7 (±2.0)
To act as a mediator and facilitator between different agencies	188 (14.2)	240 (18.1)	897 (67.7)	6.8 (±2.4)
Administration				
Involved in preparation and reporting of Health Management Information System/oral health service data*	65 (4.9)	114 (8.6)	1146 (86.5)	7.7 (±1.9)
Involved in Inspectorate System to ensure quality assurance*	85 (6.4)	160 (12.1)	1080 (81.5)	7.4 (±2.0)
As an administrator/manager	199 (15.0)	325 (24.5)	801 (60.5)	6.3 (±2.3)
Involved in planning of service development	103 (7.8)	196 (14.8)	1026 (77.4)	7.1 (±2.1)
Involved in research or surveys	131 (9.9)	247 (18.6)	947 (71.5)	6.8 (±2.1)
Registration of all dental therapists under one professional organization	40 (3.0)	93 (7.0)	1192 (90.0)	8.4 (±1.9)
As a team leader				
As a clinical/oral health promotion trainer*	49 (3.7)	198 (14.9)	1078 (81.4)	7.5 (±1.9)
As a clinical supervisor	56 (4.2)	186 (14.0)	1083 (81.7)	7.5 (±1.9)
As a leader	49 (3.7)	184 (13.9)	1092 (82.4)	7.6 (±1.9)

*Roles that are currently permitted to the Malaysian dental therapists (17, 19, 22).
Total may not equal to *N* = 1325 due to missing values in some questions.

promotion activities such as delivering oral health education to toddlers (91.1%), preschoolers (98.2%), primary school children (98.7%) and secondary school children (85.0%) as 'very important'. In contrast, there were fewer dental therapists who perceived their role in promoting oral health to a broader client group such as antenatal mothers (66.7%) and adults (62.4%) as being 'very important'. A slightly lower proportion of dental therapists gave 'very important' ratings to more complex roles such as that involved in planning of service development (77.4%) and in being involved in research or surveys (71.5%) compared to roles that were currently being permitted to them such as being 'involved in preparation and reporting oral health service data' (86.5%) or 'as a clinical/oral health promotion trainer (81.4%).

Discussion

To our knowledge, this was the first study to assess both job satisfaction and the perception of future roles among dental therapists in Malaysia. All respondents in the present study were females because the Ministry of Health trained only females to work as dental therapists in Malaysia. The socio-demographical characteristics of the sample are typical of the dental therapist workforce. The predominance of females as dental therapists is similar to the United Kingdom (6) and Australia (9).

The present study agreed with other studies that indicate high job satisfaction among dental therapists in most aspects of their work (4, 6, 8). The three highest satisfaction scores reported by dental therapists in the present study were related to the delivery of patient care. Other studies have also found that patient-related factors are highly correlated with job satisfaction (1, 2, 9). These aspects of dentistry could be used to promote the profession to boost new recruitment.

However, dental therapists were least satisfied with their remuneration package and the connection between their pay and their performance. Dental therapists' dissatisfaction with low remuneration has also been reported in studies in Australia (9) and South Africa (5) where most worked in the public sectors. In Malaysia, most allied-medical health workers received additional allowance meant to retain essential health workers in the Public Health Care System. However, for some reasons, dental therapists have been excluded which may cause frustration within the profession. Inadequate remuneration was believed to be a contributing factor to the poor recruitment, retention and satisfaction of dental therapists in other coun-

tries (5, 9). Financial rewards play an important role in determining worker retention and interact with a variety of other factors and conditions of service that contribute to overall job satisfaction. If the 2012 proposed Dental Bill eventually is approved and implemented, this will allow dental therapists to work in both public and private settings which consequently may improve their incomes and enhance the flexibility of their careers.

The respondents in the present study were also not satisfied with their career opportunities. This echoed the findings of a previous local survey (19) and indicated the commitment of dental therapists to continuing education and personal development. In terms of career opportunities, Malaysian dental therapists have limited opportunities to attain higher academic qualifications up to degree level as compared to other countries. After completing a three-year diploma programme in dental therapy, the highest level of further training is a six-month post-basic certificate with very limited places offered annually. In countries such as the UK and Australia, dental therapists are offered training up to degree and masters levels (7). This allows dental therapists to progress in their career and subsequently gives them the opportunity to hold higher management positions in the oral healthcare service or academic institutions. Malaysian dental therapists should be provided with a better career pathway as this may eventually increase their job satisfaction (5).

In relation to dental therapist's perception of their future clinical roles, the majority of them prefer to retain their current permitted roles, rather than roles that required more complex clinical skills or broader oral health and administration responsibilities. For example, only about 40% of respondents in the present study perceived the placement of preformed crowns on deciduous teeth and extraction of anterior permanent teeth as 'very important' future roles for dental therapists, although these clinical duties have been carried out by their counterparts in other countries (22, 23). In addition, the majority of them have very positive perceptions on their roles in delivering oral health promotion to children below 17 years of age, rather than to a broader client groups such as adults and antenatal mothers. These findings may suggest that most Malaysian dental therapists are not prepared to undertake a more advanced and challenging role in their career.

The global dual pattern in oral diseases presents a need for more minimal and simple intervention amongst mostly younger cohorts and complex dental treatment amongst mostly the older cohorts (24). Thus, there is a need to reassess the roles of dental personnel. Dentists' time should be freed to allow them to focus on treating the increasing number of ageing population who might present with complex medical problems (12). Dentists have also been recommended to increase their role in primary healthcare activities and to act as oral physicians so that they can cope with the current oral healthcare needs (25). The expansion of dentists' roles should be complemented with the expansion of dental therapists' roles. The fact that the respondents in the present study showed a negative perception of some areas of their future possible clinical and oral health promotion roles could be because they have not received any training yet in these areas. With comprehensive additional training integrated within their basic curriculum, these dental therapists should be able to undertake and gain confidence in performing the clinical and health promotion roles expected of them.

Conclusion

In conclusion, the present study found that generally, Malaysian dental therapists were satisfied with their work but were less happy with their pay and career advancement structure. Most have reservations whether their job scope should be expanded to cover adults and pregnant mothers or to do more complex clinical skills in children. The proposed Dental Bill 2012 that covers specifically the practice of dental therapy in Malaysia may partially solve these problems. A similar survey such as this should be performed after the enactment of the bill to assess its impact on dental therapist satisfaction compared to this baseline.

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Competing interests

The authors declare that they have no competing interests.

Authors' contributions

AB[1], NM[3] and NJ[4] designed the study. AB[1] collected data and together with NA[2] analysed and prepared the draft articles. NM[3] and NJ[4] edited the drafts. Finally, all authors read and approved the final manuscript.

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