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Differences in the work pattern of male and female dentists in Tehran in 2021

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Summary. *Objectives.* As the proportion of female doctors in dentistry continues to increase, there is a need to monitor the differences in the work pattern of male and female dentists and to be aware of the relevant implications on the dental workforce. *Design and methods.* In this retrospective cohort study, 58 dentists with 2 to 5 years of work experience were approached. All services performed by each dentist, as well as their work pattern, were recorded. *Results.* The average working time per week was shorter among females; they took more days off work on a sick leave and worked fewer weekends and nights than their male counterparts. Male dentists make more extractions, endodontics and prosthesis services, but less pediatric and scaling and restoration services than women. *Conclusions.* There is a significant discrepancy in the dental service mix and in the work pattern between male and female dentists, one that should be considered in dentistry.

Keywords. Gender, dentistry, dentist.

Introduction

The number of women working in the different fields of medicine, as well as dentistry, has increased worldwide, especially in developed countries.[1] In the last 30 years there has been an increase in the proportion of female dentists.[2] As the number of women in this field continues to rise, there is a need to record the differences in the work pattern of female and male dentists and to evaluate their professional dental service-mix.[3]

Considering the gender differences among dental professionals, female dentists usually retire earlier than men.[4] Although both men and women receive the same education through their professional training courses, they have different roles and responsibilities with regard to work and personal life;[5] therefore they will perform differently even within the same occupation.

As the number of female dentists increase, considerations have been made concerning the potential effect that this may have on the profession.[6] A Canadian study comparing female and male dentists found differences in their dental work pattern, working hours, attitude and income.[7] Researches have shown that the main reason for the absence from work is maternity among women and illness among men.[8] Male dentists work more hours per week compared to females, with the latter indicating childcare issues as the main reason for their part-time work. Another study showed that 47% of women dentists reported working part-time, with the main reason being once again childcare issues, followed closely by personal choice.[9]

Women prefer group instead of solo practice, and are over-represented in public health centers. One-third of the female dentists, versus half of their male counterparts, are specialists. Even after adjusting for any differences in workload, the income of female dentists is significantly lower than that of males.[10] Limited studies indicate that female dentists work fewer hours than men, and are less interested in the commercial aspect of the job. Possible explanations for these differences include the lower productivity of females, conflicts between the familial and professional roles of women and the academic climate, which supports gender discrimination.[11-13] Due to a rapidly raising number of female dentists in Iran over the last years, as well as to the possible impact of this on labor supply, the aim of the present study was to determine any gender differences in the dental service mix and work pattern in Iran.

Methods

In this retrospective cohort study, 26 dental clinics in Tehran with more than 5 years of activity were approached. These clinics were selected because they provided dental services 24 hours a day and had dentists of both sexes. Informed consent was obtained from all participants before the beginning of the study.

All services performed by each dentist were recorded in a checklist specially designed for the study. The checklist included general information on the clinic, as well as the dentist's personal details. The extent of each service was indicated in the checklist. If a case was shared between two or more doctors, it was excluded from the study; only cases whose services were performed by one single dentist were reviewed. Finally, by using the information available in the clinic and collecting the required data from their directors, the number of days off, the work schedule and the number of work shifts were recorded.

Only the data of the dentists with a work experience of more than 2 and less than 5 years were collected. The data regarding 29 female and 29 male dentists with a rather similar payment system and income was recorded. None of the dentists who participated in this study was a director or a manager of their clinic.

One hundred cases were randomly selected from 29 male dentists and 100 cases from 29 female dentists. The total number of files was 5,200. In case of incomplete data or uncertainties in the records, the records themselves were eliminated. The data of specialized services – including orthodontic treatments, implants and special surgeries – were not included. All services were categorized into seven treatment groups. Statistical analysis was performed using the SPSS software version 24. For statistical purposes, a linear regression analysis was used. Gender was considered as a dependent variable. Surgery, teeth extraction, scaling, restoration, endodontic services, prosthesis, pediatric services were considered as independent variables.

This study was approved by the Ethics Committee of Tehran University of Medical Sciences. (NO: 42794260).

Table 1. Demographic and work pattern characteristics of the respondent dentists

Characteristics	Subgroup	N.	%
Sex	Male	29	50
	Female	29	50
Marital status	Single	47	43
	Married	11	57
Mean age	Female	31.5 years	
	Male	30 years	
Number of children	0	54	88
	1	4	12
	2 or more	0	0
Work experience (years)	3	17	29.4
	4	26	44.8
	5	15	25.8
Mean number of working hours (per week)	Female	23	
	Male	34	
Mean sick leave (day per month)	Female	3	
	Male	1	
Night shifts	Female	2	
	Male	12	

Results

The dentists participating in this study were 58 (29 males and 29 females). The mean working time per week was 34 (±5) hours for male dentists and 23 (±4) hours for female dentists. Table 1 shows the demographic and work pattern characteristics of the respondent dentists. Table 2 shows the work pattern of dentists by gender. The mean number of days off was 1 (±1) day per month for men and 3 (±1) days per month for women. On average, men worked about 11 hours more per week than their female colleagues, which was statistically significant ($p < 0.05$).

Female dentists took three times as many days off as men, but this difference was not statistically significant ($p = 0.9$). Twelve male dentists also worked night shifts, but only two females had experience in working at night. Twenty-five male dentists stated that they also worked holiday shifts, however only seven female dentists worked on weekends, indicating a significant difference ($p = 0.01$). As for the dental service mix, male dentists offered significantly more surgical, prosthetic and tooth extraction services than females (Table 3). Female dentists provided more scaling and restorative services than males, but the differences were not statistically signifi-

Table 2. Results of the linear regression analysis for work pattern of dentists and gender in Tehran in 2021

	Unstandardized B	SE	Standardized Coefficient Beta	T	p-value
Working hours per week	2.620	1.09	0.13	2.42	0.01
Sick leave	0.009	0.08	0.01	0.12	0.90
Working on night shifts	0.181	0.06	0.22	3.01	0.03
Working on weekends	4.86	1.13	-0.12	-2.34	0.01

Statistical analysis: linear regression analysis. Stepwise method. Dependent variable: gender ($p = 0.05$). Predictors: (constant) working hours per week, night shifts, work on weekends, sick leave.

Table 3. Comparison of services provided by 29 male and 29 female dentists

	Male (No)	Female (No)	95% CI		B	p
			Lower	Upper		
Extraction	3,012	711	0.69	0.031	0.04	0.01
Surgery	399	19	0.28	0.15	0.01	0.01
Scaling	682	699	0.12	0.30	0.25	0.964
Prosthesis	684	229	41	27	0.27	.004
Endodontics	1,118	904	39	16	0.26	0.627
Restoration	1,292	1,318	41	19	0.28	0.668
Pediatric	198	566	20	42	0.27	0.03

Statistical analysis: linear regression analysis. Stepwise method. Dependent variable: gender (p = 0.05). Predictors: (constant) dental services.

cant. Female dentists also administered more pediatric treatments than their male colleagues, and the difference was statistically significant. The number of endodontic treatments was higher among male dentists; however, the difference was not significant (Table 3).

Discussion

The results of the present study showed that the average working time per week was shorter among female versus male dentists; they took more days off on sick leave and worked fewer weekends and night shifts than males. The dental service mix of female dentists included fewer surgical, prosthetic and tooth extraction services and more pediatric treatments.

Gender differences have been evaluated in many studies and have also been identified in many other professions; therefore, these differences are expected to exist in the dentistry field as well.[14] Some studies suggest that female doctors may disproportionately contribute to the reduction in the inequality of access by vulnerable populations to dental services; for example, female dentists are more interested in working in urban areas and in the public sector.[15]

Female dentists are more likely to do prevention, rather than treatment, in their counseling and treatment sessions with patients. Gender analysis in medicine is carried out mainly by social scientists, who observed that gender alone could not adequately explain health behaviors.[16] Health outcomes also depend on social and economic factors, which are influenced by the cultural and political conditions of society.[17] Men are more interested in the patient documentation, physician oversupply, peer review and patient interaction than women. These differences persist even when specializations and weekly working hours are the same.[18] Other studies indicate that male dentists enjoy a higher level of job satisfaction than female dentists.[19]

These results are similar to those of Walker et al., who reported no significant difference in the number of working weeks per year according to dentists' gender, but a significant difference in the number of days off work on a leave of absence. The average duration of days off was 9.6 weeks for men and 17.4 weeks for women, but the difference was not significant.[20]

The results of this study were similar to a study by Walton et al., who analyzed the number of hours worked per week by dentists in America. This cross-sectional study randomly sampled 468 male dentists and 382 female dentists, in order to investigate work practices and job satisfaction. The majority of female dentists have had a career break for more than 6 weeks, mainly because of childcare, and worked five fewer hours per week than men, when having children at home.[21]

The present study has a number of strengths – including carefully selected samples – and measured details accurately. However, several limitations are worth considering. This study simply focused on quantifying the daily working hours and the type of activity, and did not directly confirm the respondents' attitude towards their activities. Our analysis is based on survey data reported by individuals, which are subjected to potential recall biases. The checklist that was administered in this study was carefully designed using survey instruments from other articles, and also had extensive cognitive pre-testing, to improve its validity. Nevertheless, the estimates of the answers to questions about the time spent parenting or performing domestic activities may be particularly sensitive to gender bias. Women may overestimate the amount of time they spend performing these activities. This is due to the social expectation on the basis of which women should be more engaged in such activities. Men, on the other hand, may underestimate the

amount of time they spend performing these same activities, as they are influenced by what is established by traditional male roles.

Conclusion

The work patterns of men and women in the dental profession are different, despite the same duration of their educational path and the same curriculum; this is due to psychological dissimilarities, as well as differences in their practical skills and their roles within society.

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Key messages

- Gender equity: the need for Iranian women to attend in medicine is a very serious and necessary issue.
- Work pattern: the work pattern of Iranian men and women dentists is different and can be studied for some plans.
- Work-life balance: a balance must be considered between the family and the work responsibilities of women dentists.
- Type of work: the tendency of Iranian women to work in the public sector and in teamwork should be considered and used as an important issue.
- Needs assessment: the difference between service mix and work pattern of Iranian men and women dentists can be examined in needs assessment programs.

Ethics approval: this study was approved by the Ethics Committee of Tehran University of Medical Sciences (No: 42794260).

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