ASSESSMENT OF HEALTH MANPOWER AT ORAL AND DENTAL
HEALTH CENTERS IN TURKEY WITH REGARD TO HUMAN
RESOURCES AND WORKLOAD¹TÜRKİYE'DE AĞIZ VE DİŞ SAĞLIĞI MERKEZLERİ'NDE ÇALIŞAN
DİŞ HEKİMLERİNİN SAĞLIK İNSAN GÜCÜ VE İŞ YÜKÜ AÇISINDAN
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Öz: Amaç: Türkiye'de, sağlık hizmetlerinin verilmesinde başta insan kaynakları ve ulaşım sorunları olmak üzere çeşitli güçlüklerle karşılaşmaktadır. Bu çalışmada, Ağız ve Diş Sağlığı Merkezleri(ADSM) ile Ağız ve Diş Sağlığı Hastaneleri(ADSH)'nde hizmet veren diş hekimleri sayılarında, yıllara ve bölgelere göre görülen değişikliklerin sağlık insan gücü açısından değerlendirilmesi amaçlanmaktadır. Ağız ve diş sağlığı ile ilgili hizmetlerin doğru bir şekilde planlanabilmesi için bu analizler gereklidir. **Materyal ve Yöntem:** Bu kesitsel çalışmada, 2010-2014 yılları arasında, Türkiye'nin tüm illerinde hizmet veren ADSM-ADSH'lerinden elde edilen veriler karşılaştırılmaktadır. **Bulgular:** Türkiye'de Ağız ve Diş Sağlığı Merkezleri(ADSM) ile Ağız ve Diş Sağlığı Hastaneleri(ADSH)'nde 2010-2014 yılları arasında diş hekimleri sayısı %10,2 oranında artmıştır. ADSM-ADSH'lerde 100.000 kişiye düşen diş hekimleri sayısı ise, %0,46 artmıştır. ADSM-ADSH'lere başvuru sayısı, kişi başına %60 artmıştır ve böylece poliklinik iş yükü de %49 oranında artmıştır. Ülke genelinde diş hekimlerinde insan gücü alanında önemli artışlar görülmesine rağmen, iş yükünde de buna paralel artış meydana gelmiştir. **Sonuçlar:** Elde edilen bu analiz sonuçları, yıllar itibarı ile artan nüfus ve yıllar itibarı ile "Sağlıkta Dönüşüm Programı" kapsamında artan hizmet sunumuna paraleldir. Türkiye'de ağız ve diş sağlığı hizmetlerini iyileştirmek ve tedavi maliyetlerini azaltmak için, ağız ve diş sağlığı hizmeti veren tüm sektörler arasında entegrasyonun sağlanması ve toplum temelli ağız ve diş programlarının uygulanması zorunludur. Diş hekimleri sayısındaki artışlara rağmen, istenilen kalitedeki hizmet standartlarını yakalamak zaman alacaktır. Hizmet entegrasyonunun sağlanması, sevk zincirinin tesisi ve sağlık düzeyi göstergelerinin artırılması açısından aile hekimliği uygulaması umut vermektedir.

Anahtar Sözcükler: Türkiye, Diş Hekimi, Ağız ve Diş Sağlığı Merkezi, İşyükü, İnsangücü

Abstract: Aim: Turkey has problems starting with manpower shortage and transportation problems to deliver health care services. In this study, we aimed to evaluate the numbers of dentists working at Oral and Dental Health Centers (ODHCs) and Hospitals (ODHHs) according to years as the health manpower in these institutes, and to investigate the admission rates regarding health transition projects in our country. **Material and Methods:** This cross-sectional retrospective study compares the data obtained from ODHCs/ ODHHs countrywide between 2010-2014. **Results:** The number of the dentists working at ODHCs/ODHHs has increased by 10,2% between 2010-2014. The number of dentists per 100,000 persons has risen by 0.46%. The number of admissions per capita has increased by 60% and thereby the outpatient clinic workload has also increased by 49%. An improvement has been observed in human resources regarding dentists countrywide; however, a significant increase has occurred in the workload parallel to the increase in admissions. **Conclusion:** The results of this analysis are consistent with the increased population and increased provision of services in the context of "Health Transformation Program". The efforts for increasing the quality and quantity of health workers, mainly dentists in ODHCs/ODHHs, eliminating the differences between regions, and the integration of oral and dental health services into family medicine practice are promising. It is required to introduce community-based oral and dental health programs to make an integration between all sectors providing oral and dental health services to improve oral and dental health and reduce treatment costs in Turkey. Still, it would take time to achieve the desired high quality service standards despite the increase in number of dentists. Family medicine practice is promising for the integration of services, institution of referral chain system and improvement of health level indicators.

Key Words: Turkey, Dentists, Dental Health Services, Workload, Manpower

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INTRODUCTION

With growing awareness not only that Access to health care is a basic human right but that health is a valuable national asset, a primary aim of social development, and an essential means to sound economic and social progress, the crucial question that decision-makers at the highest level have to consider is not whether it can afford not to do so. Since health industry is essentially labour-intensive, manpower constitutes a critical component. (Hall, et al.1978:5) Health manpower planning involves the correct employment and distribution of healthcare staff in sufficient number and of the highest quality. Suitable timing is essential if we are to provide health services to both at the present time and in the future. (Hogart, 1975). Non-realistic or insufficient planning leads to a decrease in system performance, an increase in cost and an imbalanced distribution of resources, resulting in serious damage to the operation of the system. It is therefore essential to provide society with the required quality health services wherever and whenever necessary. It is not possible to say that there is efficient and rational manpower planning either in our own country or in the rest of the world. (Gümrükçüoğlu et al. 2008:11). Turkey has problems starting with manpower shortage and transportation problems to deliver health care services(Üstü et al. 2011:55)

The main purpose of health systems is to optimize the health service level as much as possible and to minimize the health status differences between individuals, groups and regions despite varying health requirements and sources (Boelen et al. 202:11)

Within the context of “Health Transformation Program”, the Ministry of Health of the Turkish Republic has conducted some studies with the aim of improving health services, generalizing patient-centered approach, facilitating the availability of health services and eliminating the differences between regions. In the recommended new oral and dental health practices, sufficient flexibility is presented for providing these services and more sources are promised for improving oral and dental health services (Akdağ, 2011:180-208).

Dental and periodontal problems are among the most common health problems worldwide. Besides, these diseases are neglected as they are not mortal. However, oral and dental healthcare is an important public health issue and it also comprises an integral part of the general health (Yazıcıoğlu, 2006).

The 2003 report of the World Health Organization indicates that the oral and dental health burden is most common in developing countries especially in the lower social classes in these countries. Studies investigating the relationship between oral and dental health

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and the socio-economic variables indicate more significant disparities in oral and dental health compared to the other fields of health (Petersen, 2003:3-24; Petersen 2005:661-9).

While the costs of oral and dental health services used to be paid out of the pocket mostly by the patients until 2002, they began to be mainly covered in public institutions in 2015 in accordance with the “Health Transformation Program” (Akdağ, 2011:180-208; Stratejik Plan, 2012).

Healthcare manpower is of critical importance for health systems and the changes in health systems have increased the importance of it (Üstü et al. 2011:55).

Although the studies on manpower in healthcare are old, they have gained momentum during the health projects period and have rapidly developed since 2006 (Akdağ, 2011:180-208).

Human resources in health is one of the main components of health services in all countries. Effectiveness and quality of health services are directly proportional to the performance of healthcare workers. About 60-80% of the overall health expenses are paid for human resources in healthcare in any country. Therefore, the human resources in healthcare, which is also defined as the human face of health systems, has a very important role in health services. An equitable, effective, ef-

ficient and accessible health service should be provided in order to achieve better health outcomes. Human resources for healthcare should be improved for better health service outcomes. The effectiveness of health systems and the quality of health services are available through human source outcomes; such as performance, knowledge, skill and motivation (Yazıcığlu, 2006).

The Turkish Republic is one of the important countries in its region, which has a population of 77,7 million in 2014. Of the young population, 24.3% are below the age of 14 years, 67.8% are between 15-64 years, and 8.0% are above 65 years of age. The population in rural areas is 6.409.722 (8,2%). The under-five mortality rate and the infant mortality rate are 13.3/1000 and 11.1/1000, respectively (TÜİK, 2014). Under the light of these data, Turkey is among the moderate level countries with regard to health status.

The rate of economic sources for oral and dental health services increased to 5.3% in 2013, while it was 4.8% in 2002. While the health expenses increased by 349.5%, the expenses for oral and dental health have increased by 403% during this period (Atasever et al. 2015). At least one ODHC has been opened in every province in accordance with the Health Transformation Program conducted between 2002-2013. While there were 14 ODHCs, 1 ODHH and 3211 dentists in

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2002, these numbers increased to 137, 6 and 7750, respectively in 2014. The total number of dentists in all sectors was 21404 in 2012,

22295 in 2013 and 22996 in 2014 (Table 1) (Başara et al. 2015).

Table 1. Distribution of Dentists According to Sectors in 2014

Ministry of Health		University		Private Sector		Others		Total
n	%	n	%	n	%	n	%	n
7640	33.22	1370	5.96	13801	60.01	185	0.81	22996

The aim of this study is to investigate the status and the workload of dentists who play the major role in oral and dental health services according to years. These analyses are required for making an effective plan for oral and dental health services. Hence, various approaches could be developed in order to optimize the future supply and need balance.

MATERIAL and METHOD

The data of oral and dental health services were collected from ODHCs/ ODHHs countrywide between 2012-2014 and compared in this retrospective cross-sectional study. ODHCs/ODHHs, which work under the umbrella of the Ministry of Health and provide the main services, were included in the study. There was a total of 18070 dentistry units in Turkey in 2014. Of these, 7659 (42,39%) belong to the Ministry of Health. ODHCs have the capacity of 4.872 units and ODHHs have

the capacity of 846 units. In Turkey's dental practice, ODHCs are the institutions where primary dental care is provided. The dental clinics working within the Ministry of Health and the units from which the data could not be obtained (university, private sector and the other institutions), were excluded from the study. A total of 37925956 dentistry outpatient clinic visits had been made in 2014. Of these visits, 24204277 visits had been made to ODHCs and ODHHs. In conclusion, ODHCs and ODHHs comprise 42.39% of all dental units in Turkey and 63.82% of the dental outpatient clinic visits. The whole universe was included in the study, and a sample selection was not performed.

Data collection

The data were collected monthly from 137 ODHCs and 6 ODHHs in 81 provinces during 5 years, beginning from 2010 till the end of

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2014. The data began to be analyzed in 2015. The data of 2010 and 2011 were excluded in the analysis of human resources in health.

Approval was obtained from the Institutions of Public Hospitals of Ministry of Health prior to the study. The ethics committee approval was obtained from the Yildirim Beyazıt University (Date: 28.08.2015, Session number: 04/20, Project number: 109).

This study was designed considering the Statistical Classification of Territorial Units-1

(NUTS-1). The main purpose of NUTS-1, which was established by Eurostat (European Union Statistics Office) in mid-1970s in order to provide detailed data for European Union, is to collect regional statistics, to perform socio-economic analyses and to form the framework of community-oriented regional policies. NUTS-1 was defined as a result of the classification of Statistical Territorial Units and included 12 items. All regional studies are based on the NUTS-1 study (Table 2) (DPT, 2016).

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Table 2. Nomenclature of Territorial Units for Statistics and Provinces

NUMBER	LEVEL 1	LEVEL 2	LEVEL 3
1	Istanbul	Istanbul Subregion	Istanbul
2	Western Anatolia	Ankara Subregion	Ankara
		Konya Subregion	Konya, Karaman
3	Eastern Marmara	Bursa Subregion	Bursa, Eskişehir, Bilecik
		Kocaeli Subregion	Kocaeli, Sakarya, Düzce, Bolu, Yalova
4	Aegean	İzmir Subregion	İzmir
		Aydın Subregion	Aydın, Denizli, Muğla
		Manisa Subregion	Manisa, Afyon, Kütahya, Uşak
5	Western Marmara	Tekirdağ Subregion	Tekirdağ, Edirne, Kırklareli
		Balıkesir Subregion	Balıkesir, Çanakkale
6	Mediterranean	Antalya Subregion	Antalya, Isparta, Burdur
		Adana Subregion	Adana, Mersin
		Hatay Subregion	Hatay, Kahramanmaraş, Osmaniye
7	Western Blacksea	Zonguldak Subregion	Zonguldak, Karabük, Bartın
		Kastamonu Subregion	Kastamonu, Çankırı, Sinop
		Samsun Subregion	Samsun, Tokat, Çorum, Amasya
8	Central Anatolia	Kırıkkale Subregion	Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir
		Kayseri Subregion	Kayseri, Sivas, Yozgat
9	Eastern Blacksea	Trabzon Subregion	Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane
10	Southeastern Anatolia	Gaziantep Subregion	Gaziantep, Adıyaman, Kilis
		Şanlıurfa Subregion	Şanlıurfa, Diyarbakır
		Mardin Subregion	Mardin, Batman, Şırnak, Siirt
11	Mideastern Anatolia	Malatya Subregion	Malatya, Elazığ, Bingöl, Tunceli
		Van Subregion	Van, Muş, Bitlis, Hakkari
12	Northeastern Anatolia	Erzurum Subregion	Erzurum, Erzincan, Bayburt
		Ağrı Subregion	Ağrı, Kars, Iğdır

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Statistical Method Used

Data processed were presented as uni-dimensional and two-dimensional tables, and the statistical analyses were performed using the IBM-SPSS for Windows Version 22.0 package program. The number of dentists working at ODHCs/ ODHHs, and the number of dentists per 100000 individuals were given according to years and regions, and changes within the years were calculated.

Admissions to ODHCs/ODHHs were calculated as admission per capita considering the population of the region. Distribution of the estimated admissions per capita according to years and regions was deduced.

The numbers of outpatient clinic visits per dentist working at ODHCs/ODHHs were calculated using the number of visits and the number of dentists according to years.

Neither hypothesis testing was applied nor comparisons were made because the data were mass data; in other words, no sample selection was made. The results were interpreted as an 'increase' or 'decrease' compared to the previous year.

FINDINGS

While 4838 dentists were working at ODHCs/ ODHHs in 2012, the numbers became 5005 and 5330 in 2013 and 2014, respectively. The number of dentists increased by 10.2% between 2012-2014 (Table 3).

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Table 3. Distribution of the Number of Dentists Working at ODHCS/ODHHS According to Years and NUTS-1

Regions	2012	2013	2014	Difference between 2012-2014 (%)
Mediterranean	562	557	583	+3.6
Western Blacksea	396	376	387	-2.3
Western Anatolia	827	746	825	-2.4
Northeastern Anatolia	107	121	156	+45.8
Southeastern Anatolia	347	425	443	+27.7
Aegean	663	713	706	+6.5
Eastern Marmara	548	527	557	+1.6
Western Marmara	238	275	261	+9.7
Eastern Blacksea	146	166	176	+20.5
Istanbul	580	594	701	+20.9
Mideastern Anatolia	160	228	241	+50.6
Central Anatolia	264	277	294	+4.9
ODHC/ODHH	4838	5005	5330	+10.2
Ministry of Health¹⁵	7291	7997	7640	+4.8
All sectors, Turkey¹⁵	21404	22295	22996	+7.4

The numbers of dentists working at ODHCs/ODHHs per 100000 persons was 6.40, 6.53 and 6.68, respectively in years 2012, 2013 and 2014. The number of dentists working

at ODHCs/ODHHs per 100.000 people increased by 0.46% from 2012 to 2014 (Table 4).

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Table 4. Distribution of t Number of Dentists Working at ODHCS/ODHHS per 100.000 People According to Years and NUTS-1

Regions	2012	2013	2014	Difference between 2012-2014 (%)
Mediterranean	5.85	5.89	5.88	+0.03
Western Blacksea	8.83	8.36	8.61	-0.22
Western Anatolia	11.40	10.13	11.00	-0.40
Northeastern Anatolia	4.81	5.48	7.07	+2.26
Southeastern Anatolia	4.36	5.25	5.37	+1.01
Aegean	6.78	7.20	7.04	+0.26
Eastern Marmara	7.76	7.32	7.60	-0.16
Western Marmara	7.33	8.39	7.79	+0.46
Eastern Blacksea	5.74	6.50	6.86	+1.12
Istanbul	4.19	4.19	4.88	+0.69
Mideastern Anatolia	4.26	6.04	7.77	+3.51
Central Anatolia	6.85	7.15	7.57	+0.72
ODHC/ODHH	6.40	6.53	6.86	+0.46
All sectors, Turkey¹⁵	28	29	30	+7.14

The numbers of admissions to ODHCs/ODHHs per capita were 0.20, 0.32 and 0.32, respectively in years 2012, 2013 and 2014 (Table 5).

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Table 5. Number of Admissions to ODHCS/ODHHS per Capita According to NUTS-1

Regions	ODHC/ODHH			All Sectors
	2012	2013	2014	2014
Mediterranean	0.18	0.29	0.27	0.42
Western Blacksea	0.27	0.44	0.41	0.65
Western Anatolia	0.29	0.43	0.42	0.71
Northeastern Anatolia	0.22	0.29	0.35	0.56
Southeastern Anatolia	0.18	0.27	0.29	0.40
Aegean	0.21	0.33	0.31	0.48
Eastern Marmara	0.26	0.40	0.38	0.57
Western Marmara	0.23	0.41	0.37	0.55
Eastern Blacksea	0.17	0.29	0.28	0.49
Istanbul	0.12	0.19	0.20	0.34
Mideastern Anatolia	0.17	0.32	0.33	0.48
Central Anatolia	0.22	0.36	0.36	0.60
ODHC/ODHH	0.20	0.32	0.32	
All sectors, Turkey¹⁵	0.46	0.49	0.49	0.49

The numbers of outpatient clinic visits per dentist were 2690.21, 4047.89, 3998.39 in 2012, 2013 and 2014, respectively (Table 6).

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Table 6. Distribution of the Number of Outpatient Clinic Visits per Dentist According to Years and NUTS-1

Regions	2012	2013	2014	Difference Between 2012- 2014 (%)
Mediterranean	2394.40	4516.76	4231.72	+76
Western Blacksea	2307.31	3917.96	3684.44	+72
Western Anatolia	1873.18	3756.72	3535.76	+89
Northeastern Anatolia	3816.65	4230.60	5210.00	+37
Southeastern Anatolia	3865.74	4430.39	4893.51	+27
Aegean	2420.43	3926.70	4254.29	+76
Eastern Marmara	2634.11	4275.89	4059.65	+54
Western Marmara	2814.81	4440.30	4691.22	+67
Eastern Blacksea	2048.81	3441.81	3144.48	+53
Istanbul	4175.79	4117.13	3998.08	-4
Mideastern Anatolia	3629.55	4384.52	4075.84	+10
Central Anatolia	2078.86	3437.81	3052.51	+47
ODHC/ODHH	2690.21	4047.89	3999.36	+49

DISCUSSION

Provision of primary health care, improvement of physical conditions and human resources, funding for services and investment, data collection for planning and policy development should be the priority for oral and dental health as in all health systems. Coordination and direction of these independent functions would improve the achievement of the system (Üstü et al. 2011:55).

The increase in the number of dentists was 7.4% in Turkey between 2012-2014, and this rate was 4.8% for dentists working within the Ministry of Health and 10.2% at ODHCs/ODHHs, which are also within the Ministry of Health. This increase in the number of dentists who work at ODHCs/ODHHs is striking. The regions with the maximum increase were; Central Anatolia (50.6%), Northeastern Anatolia (45.8%) and Southeastern Anatolia (27.7%). The increase in dentist numbers was limited in the west, where there are already

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sufficient amount of dentists, but the increase in the east was significant.

While the number of dentists in all sectors was 16371 in 2002, this number reached 21404 in 2012, 22295 in 2013 and 22996 in 2014 (Başara et al. 2015; T.C.T.K.H.K. 2014).

Dentists who work at ODHCs/ODHHs stand for approximately 24% of the dentists who work in all sectors and 72% of the dentists who work within the Ministry of Health. ODHCs/ODHHs also include 42.39% of all dental units in Turkey and provide 63.82% of the outpatient clinic services (Başara et al. 2014).

In 2014, 7640 of 22996 (33,22%) dentists in Turkey were working within the Ministry of Health, 1370 (5,96%) were working at universities and 13801 (60,01%) were working privately (Table 1). In 2014, of the 7640 dentists within the Ministry of Health, 2265 were working at hospitals, 5375 were at other institutions (such as ODHCs), and no dentists worked at primary health units. Dentists who worked out of hospitals are the second health personnel group following general practitioners (Başara et al. 2014; T.C.T.K.H.K. 2014).

The numbers of dentists per 100.000 people have also increased within years, and this increase in the number of dentists was greater than the increase in population. This increase was maximum in the east; namely, in Mideast-

ern Anatolia, Northeastern Anatolia and the Black Sea regions. A decrease was observed in Western Anatolia, Western Black Sea and the Eastern Marmara regions in which the numbers of dentists per 100000 people were the highest. In conclusion, between 2012-2014, the numbers of dentists have increased in the regions where these numbers were the lowest.

In 2014, the number of dentists per 100000 people was 30 in Turkey; this number was 28 worldwide, 65 in the countries with higher incomes, 57 in the WHO European Region and 37 in countries of middle and higher income groups (Başara et al. 2014).

Coming to the admission numbers per capita; the admissions to ODHCs/ODHHs per capita was 0.20 in 2012. This rate increased by 60% and reached 0.32 in 2013 and 2014 (Table 5). Namely, the use of ODHCs/ ODHHs has significantly increased. Western Anatolia, Western Black Sea and Central Anatolia are the regions where the number of admissions is the highest. However, the number of admissions is minimum in Istanbul region. We strongly think that most of the admissions are to the private sector in Istanbul.

The number of outpatient clinic visits per dentist was 2690,21 in 2012, it has been 4047,89 in 2013 and 3998,39 in 2014 (Table 6). The significant increase in outpatient clinic vis-

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its per dentist from 2012 to 2013 suggests that the accessibility and demand highly increased in 2013. This condition may be associated with introducing Association of Public Hospitals in accordance with the declaration No. 663 at the end of 2012.

Outpatient clinic admissions per dentist at ODHCs-ODHHs have increased by 49% between 2012-2014. This increase was maximum in Western regions such as; Western Anatolia, Mediterranean and Aegean regions due to the limited increase in the number of dentists. The increase in the number of dentists in eastern regions has relatively decreased the average outpatient clinic admissions. The minimum increase in outpatient clinic admissions was in Istanbul, Central Anatolia and Southeastern Anatolia. The regions where outpatient clinic admissions per dentist was minimum were; Eastern Black Sea, Central Anatolia and Western Anatolia, and the regions where outpatient clinic admissions per dentist was maximum were; Southeastern Anatolia, Istanbul and Central Anatolia regions. This condition is consistent with Istanbul and Southeastern Anatolia where the number of dentists per 100000 persons was the lowest. Western Anatolia, where the number of dentists per 100000 persons was the highest, also had the highest number of outpatient clinic admissions. The most important goal of health policies has been re-

ported to include the minimization of differences between regions with regard to health services (Stratejik Plan, 2012).

RESULTS and SUGGESTIONS

When the distribution dentist numbers according to years and sectors was analyzed, it was seen that while the rate of dentists working within the Ministry of Health was 19.6% in 2002, it has reached 35.9% in 2013. Unlikely, the rate of dentists working at universities was 76.2% in 2002, it has reduced to 59,8% in 2013. Despite the decrease in the rate of dentists working in the private sector, dentists are the second leading healthcare workers following pharmacists working in the private sector (Başara et al. 2015). It may be stated that the number of dentists should increase more rapidly depending on the increase in admission numbers to ODHCs/ODHHs.

In Turkey, dentists get a university education for 5 years. In 2012-2013, the number of faculties of dentistry was 37, the number of students registered at these faculties was 2908, and the overall number of students was 11133. The estimated number of dentists at the end of 2023 would be 44800 projected with the same number of new registrations (Akdağ et al. 2011).

The requirement for dentists in 2023 has been determined as 28000 according to Human Re-

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sources 2023 vision of the Ministry of Health. However, the requirement in the public sector has been determined as 38000, by an increase of 10000 more, due to the possible more active position of ODHCs/ODHHs. In that case, the number of dentists per 100000 people will be 45 in 2023. Of the targeted 38000 dentists for 2023, 16500 are estimated to be in the private sector. The number of students that should be registered in faculties of dentistry has been projected by the Ministry of Health according to the targeted 38000 students for 2023. Considering the population growth rate, the number of new students required to keep the personnel number constant per 1000 people has been determined as 990. The Ministry of Health has endorsed some recommendations for the number of students that should be registered to universities according to these data. Approximately a further 6000 dentists would have been trained according to the 2023 target, if matriculations would continue in the same way. Therefore, matriculations should be reviewed again (Akdağ et al. 2011).

Over a span of more than 25 years following the Alma Ata Declaration in 1978, the concept of “health for everyone” has played an important role in the development of health policies and determination of priorities of the health system and thereby giving priority to primary health care has been accepted. The declaration aims at carrying out immediate

and effective studies for developing and establishing the primary care with technical collaboration in accordance with the economic status worldwide, particularly in developing countries (Korukluoğlu et al. 2006:160-167).

Although detailed studies on human resources are required from the dentists’ perspective, a comprehensive human resources planning is also required for the other healthcare workers such as nurses, oral and dental health technicians, denture technicians, and radiographers, who work together with dentists (Akar, 2014).

The family dentistry system should be prioritized to generalize oral-dental health services, to decrease the proportion of patients at secondary and tertiary centers and to avoid higher costs because of advanced treatments. This model which at the first glance reminds “family medicine implementation”, will complete the deficiencies in preventive dentistry in Turkey (Demiralp et al., 2012:60-70).

In order to achieve better human resources outputs, planning about human resources in health, policy development, contribution and participation of the stakeholders, management and leadership, education and health programs should be evaluated together. Difficulties during application affect the success. Besides the other components of the health system, oral-dental health services and man-

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power are affected by the characteristics of the country itself (Yazıcıoğlu, 2006).

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