The Dermatology workforce in Saudi Arabia: Current trends, challenges and future directions

Ghada A. Bin Saif [1], MBBS, MD

Mohammed Al-haddab[1], FRCPC, DABD

Assistant Professors & Consultants [1]

Department of Dermatology

College of Medicine

King Saud University – Riyadh, Kingdom of Saudi Arabia

Abstract

Objectives: To provide a snapshot of the dermatology work force in Saudi Arabia.

Methods: We collected data on the supply and distribution of dermatologists in Saudi Arabia. We discussed the current status of dermatology manpower issues in Saudi Arabia.

Results: We found that between 1987 and 2007, the availability of dermatologists to population in Saudi Arabia rose by 60 %, from 2.35 to 3.76 dermatologists per 100,000 Saudi Arabian individuals. However, the current workforce is already out of balance in several ways. We have an excess of non-Saudi citizen dermatologists and a barely adequate supply of Saudi dermatologists. The dermatologist population is unbalanced with regard to gender and uneven in terms of geographic distribution.

Conclusions: The dermatology workforce does not match well with the nation's health care goals. We should create a more successful and stable match between the talent supply and health care system requirements.

Key words: Dermatology, Manpower, Saudi Arabia.
Funding/Support: None reported.
Conflict of interest: None reported

Corresponding Author

Ghada A. Bin Saif
Assistant Professor and Consultant Dermatologist
Department of Dermatology
College of Medicine
King Saud University
P.O. Box - 54753 Riyadh - 11524
Kingdom of Saudi Arabia
Tel No. (00966 -1) 4691426
Fax No. (00966-1) 4691432

Introduction

In its simplest terms, workforce planning is getting the right number of people with the right skills, experiences and competencies in the right jobs at the right time. The first step in workforce planning is an analysis of present workforce competencies.[1]

Very little is known about the medical manpower in Saudi Arabia (SA) today or over the past decade. In addition, No previous analysis has ever been conducted to address the status of the dermatology workforce in SA. In the absence of definitive data, opinions varied greatly within the dermatology community as to the adequacy of the specialty workforce, in light of the growing anecdotal international evidence suggesting a shortage of dermatologists in other countries.[2] Data such as these are especially valuable for workforce planning by policymakers. It also provides useful information to medical students as they make their career decisions.

This article provides a snapshot of the dermatology work force in SA. We collected data on the supply and distribution of dermatologists in SA, discussed the current status of manpower issues for dermatology in SA, and compared our findings with those of others to obtain a more accurate picture of where the field really stands and to provide sensible solutions to the problem.

Workforce ratios for this article were calculated using population estimates provided by the Central Department of Statistics and Information, Ministry of Economy and Planning, SA, in conjunction with dermatologists' estimates (By including dermatologists in all governmental and private sectors) provided by the Ministry of Health's statistical yearbooks, SA. [3-26] These estimates represent the officially available data source.

Supply of Dermatologists

The number of resident training positions in Saudi Arabia has grown gradually since 1999. In 1999, the Saudi Council for Health Specialties (SCHS) graduated the first batch of dermatology residents. The number of graduated residents increased by 250%, from 4 in 1999 to 10 in 2007 (Figure 1). [27-35]

The residency training program in dermatology remains intensely competitive as it provides plentiful job opportunities. There is an excess of applicants, but the number of training positions is limited by

capacity of the residency programs to train residents. Thus, the supply of dermatologists has become inelastic to the level of demand. Clearly, the supply of Saudi dermatologists could be increased if residency programs were expanded.

All resident dermatologists trained in SA remain in the country to practice; however, the Saudi board training program is not the only source of new dermatologists who are trained in the country. The Arab Board training program is the other available training program in the country. Besides the local training, many Saudi dermatologists complete their residency program in other countries such as the USA, Canada and Germany. The third category of dermatologists in SA is foreign-trained dermatologists.

Workforce Status and Trends

Most articles written on the estimated number of dermatologists needed projected the need for approximately 2.8 to 3.0 dermatologists per 100,000 people.[36] Examination of dermatologist ratios in other countries showed a ratio of 4.9 per 100,000 among the French population and 3.5 per 100,000 among the United States population in 2002.[37,38] However, the appropriate target for international comparison has never been clear.

Between 1987 and 2007, the availability of dermatologists to the SA population rose by 60 %, from 2.35 to 3.76 dermatologists per 100,000 among the SA population (Table: 1, Figure: 2). As the current supply of dermatologists (3.76 per 100,000 people) slightly exceeds most of the demand estimates noted and since our workforce is still growing, it is reasonable to ask whether protocol should allow more foreign dermatologists to practice in SA. [3-26]

Workforce Demographics

The current dermatology workforce in SA is already out of balance in several ways. Saudi Arabia has an excess of non-Saudi citizen dermatologists and a barely adequate supply of Saudi dermatologists. Most of the recent growth in the number of dermatologists is attributed to an increase in the number of non-Saudi dermatologists. The Saudi group has been relatively stable at approximately 1 per 100,000 in the SA population over the past 6 years. However, foreign dermatologists have progressively increased in number, from 1.59 per 100,000 in the SA population in 1999 to 2.6 per 100,000 in the SA population in 2007. In 2007, we

had 901 dermatologists, 69.3% of whom were non-Saudi's (Figure 2).[3-26]

This over-supply of non-Saudi dermatologists carries the risk of workforce instability (as seen in figure 2). There was a reduction in the number of dermatologists between 1995 and 2003. This was secondary to the reduction in the number of non-Saudi dermatologists, despite a steady increase in the number of Saudi dermatologists. [3-26]

Health workforce shortage is now recognized as an international problem.[2] The wealthy nations are meeting their health workforce needs by recruiting physicians from underdeveloped countries. This is the case in SA. The dermatologist supply is the responsibility of the national medical schools and residency programs. It is clear that the Saudi residency training program provides a minimal fraction of practicing dermatologists. If we depend on the current training rate, we will need to wait a very long time before this workforce imbalance is corrected.

Furthermore, a continuation of these growth trends with regard to the number of new non-Saudi dermatologists entering SA during the period from 1999 to 2007 would lead to an upsurge in the number of dermatologists (Figure 2). [3-26]

A dermatologist count, however, is not a complete picture of the dermatology workforce. The dermatologist availability for patient care can be impacted by changes in productivity or working hours.[39] Studies of physicians in many specialties in United States have suggested that the values of younger generations entering the field have led to fewer work hours.[40-42] This generational difference in practice predicts increasing problems going forward. Older dermatologists currently perform a larger share of care delivery, working more sessions per week and spending more time practicing medical dermatology, than their younger colleagues in United States.[43] Unfortunately, we do not have our own studies in this field to confirm these data in our society.

The gender balance among dermatologists must also be considered as it drives changes in workforce pattern. In 2007, females represented only 29% of practicing dermatologists in the Ministry of Health and private sector, which represent 81% of the workforce in SA. No data are available on the gender of dermatologists in the other governmental sectors that represent the remaining 19% of the workforce.[26] In the USA, there is a persistent gender gap in the average number of work hours; this gap is

attributable to differences in surgical time. Female dermatologists are spending as many hours on medical dermatology as their male colleagues but less surgical time.[44] In Canada, there are no gender differences with regard to activity level in dermatology.[45] There is increasing evidence that female physicians in primary care attract a higher proportion of female patients to their practices than do male physicians in other countries.[46, 47] Furthermore, Patients may present somewhat different types of problems to female than to male physicians.[48, 49] Whether this is applicable to dermatology practice in SA, needs to be examined. In our opinion, this trend seems to be reinforced in SA by the religious and social background of the population.

Workforce Distribution

There is geographic variability in the distribution of dermatologists and the dermatologic services that they provide. Figure 3 shows that the number of dermatologists per 100,000 in 2007 varied from 4.96 in Eastern province to 1.7 in Asir province. These ratios were calculated without considering the dermatologists in military hospitals, who represent 8.1% of the workforce, due to the lack of data regarding their geographic distribution.[26, 50]

Geographic variation has lead to the paradoxical finding of oversupply in some areas with undersupply in other areas. The fact that location consistently ranked as the highest priority in job selection suggests that this problem is likely to continue because underserved areas are often unattractive or economically deprived. Furthermore, market forces can actually exacerbate mal-distribution.[51] This is a system problem, not a workforce problem. Strategies are needed to correct this defect, including financial incentives for physicians to move to underserved areas.

Workforce Demand and Challenges

The current dermatology practice is challenged by progressively increasing demand. Despite recent advances in care, our core clinical conditions remain without curative treatments; the prevalence of some of the most common diseases like atopic dermatitis continues to increase, efforts to promote public awareness of skin diseases increased interest in skin health, and Patients prefer direct access to dermatologists.[52-55] All these factors contribute to the increased demand for expert dermatologic services.

In addition to the growing demand for medical dermatology care, factors such

as the aging of baby boomers, broadened scope of practice due to recent advances in aesthetic and cosmetic services and continuing increases in patients' expectations have been cited as drivers of increasing demand for dermatology services.[56-58]

The declining interest of dermatologists in medical dermatology is clear. It results from greater financial rewards in surgical and cosmetic procedures and the low reimbursement for the delivery of medical dermatologic services, which are no longer cost effective for many physicians.[51] The powerful pull of cosmetic practice further constrains the effective supply of dermatologists who address the medical dermatology needs of patients. Some of these procedures clearly require more time than a routine office visit, so the overall impact may be somewhat greater. Does an increase in demand generated by growth in cosmetic dermatology represent a durable trend, or might it be reversed if the current economic boom ends and patients spend less on cosmetic procedures?[39] Nonetheless, it is clear that, if dermatologists do not step up to the plate, treatment for the dermatologic patient may will be delivered by non specialists. Furthermore, if our specialty becomes synonymous with cosmetic pursuits to the exclusion of the medical aspects, we will be diminished in the eyes of the medical community and most certainly in the eyes of the lay public.[59]

Future Workforce

Ten years ago, the government decided to increase medical school admissions by 50%, as well as to establish new medical schools and provide many scholarships for medical students to other countries. The net result will be an increased number of medical school graduates, some of whom might become dermatologists. This will have an impact on the entire physician workforce in SA over the next few years.

The size and composition of the future workforce that will be required are uncertain.[51] There are many difficulties in forecasting physician supply. Even though the measurement of entrance and exit from the profession is a generally accepted approach to forecasting supply, minor differences in assumptions create large discrepancies over time. Moreover, there is little empirical research to support critical assumptions about the relative clinical contribution of different physicians (such as men/women and physicians/residents) or what constitutes an adequate physician supply. Thus, there is little scientific basis

on which to claim that one projection is more credible than another.[60]

Solutions

This analysis indicates that the dermatology workforce does not match well with the nation's health care goals. We should create a more successful and stable match between supply and health care system requirements.

Increasing the number of Saudi trainees is an important step in matching our capacity to deliver care with the demand for dermatology services. This change must be accompanied by thoughtful workforce planning. It is critical to factor in the proportion of dermatologists planning to work part-time or to pursue academic careers because both lead to fewer hours spent in patient-care activities.[61]

More concentrated and coordinated action among all of the institutions and hospitals involved in residency training is needed. Cohesive efforts on the part of government, educational and professional organizations would produce policies to promote a dermatology workforce more in tune with the requirements of the nation.

A corresponding change in the number of foreign dermatologists achieved by controlling the number of foreign dermatologists permitted to enter SA is necessary to avoid disproportionate growth in dermatologist supply relative to the population.

To ensure provision of medical dermatology services, training programs must be developed for those with interests in medical dermatology, incentives must be offered to trainees to focus on medical dermatology, and financial incentives must be shifted toward medical practice.[61]

Changing the core structure of how physician's services are remunerated should be investigated. The current fee-for-service regimen, where physicians are paid for each service or treatment delivered, gives physicians the incentive to provide a higher volume of services than if they were paid a monthly salary.

Reexamining our relationship with alternative providers including primary care physicians and pediatricians, as well as additional training and support, may generate more appropriate and timely patient referrals.[61]

Finally, we need to establish a centralized and sophisticated database that

provides workforce information on all medical specialties. Collecting meaningful data on all medical specialties to ascertain the dynamics of health care trends is essential. More detailed and frequent surveys on dermatologic manpower usage are required to predict future needs.

Achieving a balanced workforce in the future will require a balancing of governmental intervention with initiatives undertaken by the profession to achieve the ideal long-term situation.

References:

1- U.S. Department of the Interior. Office of Personnel Policy. Workforce Planning Manuals, 2001. Available at http://www.doi.gov/hrm/WFPIManual.html (15 jan 2010)

2- World Health Organization. Human resources for health. Draft outline: World Health Report 2006. Available at http://www.who.int/hrh/whr06_consultation/en/index2.html. (15 Jan 2010)

3- Central department of statistics and information, ministry of economy and planning. Statistical year book, 1987. Riyadh, SA.

4- Central department of statistics and information, ministry of economy and planning. Statistical year book, 1989. Riyadh, SA.

5- Central department of statistics and information, ministry of economy and planning. Statistical year book, 1991. Riyadh, SA.

6- Central department of statistics and information, ministry of economy and planning. Statistical year book, 1993. Riyadh, SA.

7- Central department of statistics and information, ministry of economy and planning. Statistical year book, 1995. Riyadh, SA.

8- Central department of statistics and information, ministry of economy and planning. Statistical year book, 1997. Riyadh, SA.

9- Central department of statistics and information, ministry of economy and planning. Statistical year book, 1999. Riyadh, SA.

10- Central department of statistics and information, ministry of economy and planning. Statistical year book, 2001. Riyadh, SA.

11- Central department of statistics and information, ministry of economy and

planning. Statistical year book, 2003. Riyadh, SA.

12- Central department of statistics and information, ministry of economy and planning. Statistical year book, 2005. Riyadh, SA.

13- Central department of statistics and information, ministry of economy and planning. Statistical year book, 2007. Riyadh, SA.

14- Central department of statistics and information, ministry of economy and planning. Population & Housing Census, 1992. Riyadh, SA.

15- Central department of statistics and information, ministry of economy and planning. Population & Housing Census, 2004. Riyadh, SA.

16- Ministry of health. Statistical year book, 1987. Riyadh, SA.

17- Ministry of health. Statistical year book, 1989. Riyadh, SA.

18- Ministry of health. Statistical year book, 1991. Riyadh, SA.

19- Ministry of health. Statistical year book, 1993. Riyadh, SA.

20- Ministry of health. Statistical year book, 1995. Riyadh, SA.

21- Ministry of health. Statistical year book, 1997. Riyadh, SA.

22- Ministry of health. Statistical year book, 1999. Riyadh, SA.

23- Ministry of health. Statistical year book, 2001. Riyadh, SA.

24- Ministry of health. Statistical year book, 2003. Riyadh, SA.

25- Ministry of health. Statistical year book, 2005. Riyadh, SA.

26- Ministry of health. Statistical year book, 2007. Riyadh, SA.

27- Saudi council for health specialties. Annual report, 1999. Riyadh, SA.

28- Saudi council for health specialties. Annual report, 2000. Riyadh, SA.

29- Saudi council for health specialties. Annual report, 2001. Riyadh, SA.

30- Saudi council for health specialties. Annual report, 2002. Riyadh, SA.

31- Saudi council for health specialties. Annual report, 2003. Riyadh, SA.

32- Saudi council for health specialties. Annual report, 2004. Riyadh, SA.

33- Saudi council for health specialties. Annual report, 2005. Riyadh, SA.

34- Saudi council for health specialties. Annual report, 2006. Riyadh, SA.

35- Saudi council for health specialties. Annual report, 2007. Riyadh, SA.

36- Stern RS. Dermatologists in the year 2000. Will supply exceed demand? Arch Dermatol.1986; 122:675-8.

37- RyanT. Report for the British Association of Dermatologists (sponsored by Schering Plough). Dermatology - a service under threat. London: British Association of
Dermatology, 1993.

38- American Medical Association. Physician Characteristics and Distribution in the U.S. Chicago: American Medical Association; 2002.

39- Resneck J Jr. Too few or too many dermatologists? Difficulties in assessing optimal workforce size. Arch Dermatol. 2001; 137:1295-301.

40- Freiman MP, Marder WD. Changes in the hours worked by physicians, 1970-80. Am J Public Health. 1984; 74:1348-52.

41- Montague J. Safe & sound. Security, improved lifestyles are driving physician recruiting. Hosp Health Netw. 1994; 68:48, 50.

42- Dorsey ER, Jarjoura D, Rutecki GW. Influence of controllable lifestyle on recent trends in specialty choice by US medical students. JAMA. 2003; 290:1173-8.

43- Jacobson CC, Resneck JS Jr, Kimball AB. Generational differences in practice patterns of dermatologists in the United States: implications for workforce planning. Arch Dermatol. 2004; 140:1477-82.

44- Kimball AB, Resneck JS Jr. The US dermatology workforce: a specialty remains in shortage. J Am Acad Dermatol. 2008; 59:741-5.

45- Woodward CA, Hurley J. Comparison of activity level and service intensity of male and female physicians in five fields of medicine in Ontario. CMAJ. 1995; 153:1097-106.

46- Cohen M, et al. Correlates of certification in family medicine in the billing patterns of Ontario general practitioners. J Am Med Womens Assoc. 1991; 46:49-54.

47- Nichols S. Women's preferences for sex of doctor: a postal survey. J R Coll Gen Pract. 1987; 37:540-3.

48- Bensing JM, van den Brink-Muinen A, de Bakker DH. Gender differences in practice style: a Dutch study of general practitioners. Med Care. 1993; 31:219-29.

49- Preston-Whyte ME, Fraser RC, Beckett JL. Effect of a principal's gender on consultation patterns. J R Coll Gen Pract. 1983; 33:654-8.

50- Central department of statistics and information, ministry of economy and planning. Population and housing characteristics in the kingdom of Saudi Arabia, Demographic survey 2007. Riyadh, SA.

51- Bystryn JC. Dermatology manpower needs. Dermatol Clin. 2000; 18:303-12.

52- Alakloby OM. Pattern of skin diseases in Eastern Saudi Arabia. Saudi Med J. 2005; 26:1607-10.

53- Goodheart HP. Too few dermatologists, or a plethora of “skin check” patients?
J Am Acad Dermatol. 2003; 49:E1.

54- Owen SA, Maeyens E Jr, Weary PE. Patients' opinions regarding direct access to dermatologic specialty care. J Am Acad Dermatol. 1997; 36:250-6.

55- Federman DG, et al. The primary care provider and the care of skin disease: the patient's perspective. Arch Dermatol. 2001; 137:25-9.

56- Warmuth IP, et al. Dermatologic surgery into the next millennium: Part I. Cutis 1999;64:245-8.

57- Downie P. The ageing face. Stemming the tide with cosmetic surgery. Aust Fam Physician 1997; 26:1032-5.

58- Cooper RA. Weighing the evidence for expanding physician supply. Ann Intern Med. 2004; 141:705-14.

59- Burton A. Too busy with Botox or just not enough dermatologists? Lancet Oncol. 2008; 9:825-6.

60- Feil EC, Welch HG, Fisher ES. Why estimates of physician supply and requirements disagree. JAMA 1993; 269:2659-63.

61- Watson AJ, Kvedar JC. Staying on top in dermatology: why we must act now to address the capacity challenge. Arch Dermatol. 2008; 144:541-4.

LEGENDS

Figure 1: Graduates from Saudi dermatology residency programs (1999- 2007). Data obtained from the annual reports of Saudi Council for Health Specialties, Riyadh, SA. [27-35]

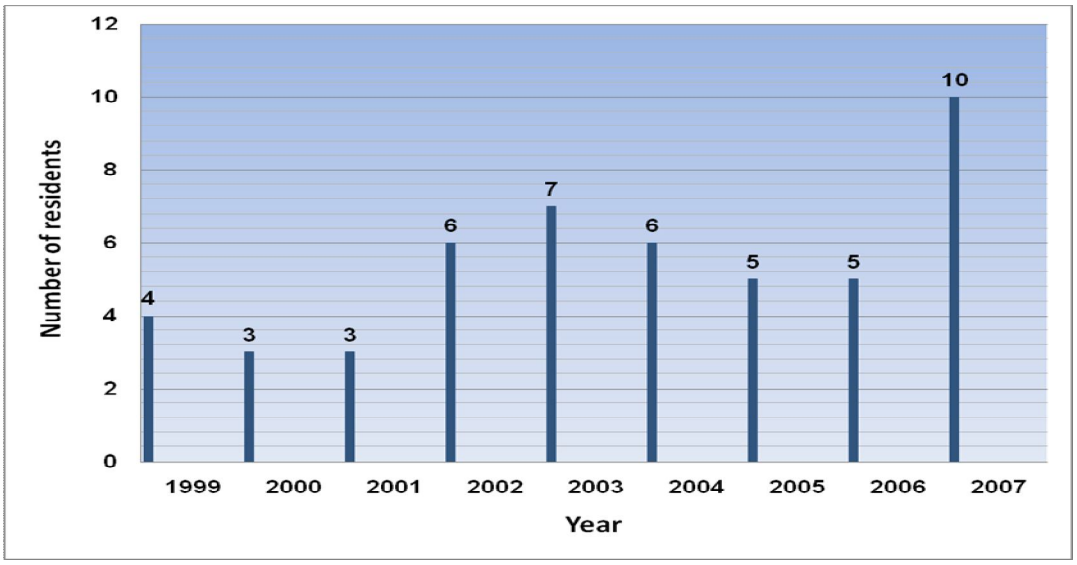

Table 1: Active dermatologists per 100,000 in the SA populations, 1987-2007. Ratios were calculated using population estimates provided by the Central Department of Statistics and Information, Ministry of Economy and Planning, SA in conjunction with dermatologists' estimates provided by the Ministry of Health's statistical year-books, SA.[3-26]

Year	**No. of dermatologists**	**Population estimates**	**Active dermatologists per 100.000 in SA population**
1987	337	14332882	2.35
1989	429	15379085	2.79
1991	492	16425287	3
1993	606	17425843	3.48
1995	470	18379675	2.56
1997	571	19333867	2.95
1999	525	20288806	2.59
2001	577	21242250	2.72
2003	661	22196442	2.98
2005	841	23109303	3.64
2007	901	23980834	3.76

Figure 2: Active dermatologists (Saudi Vs All dermatologists) per 100,000 in the SA populations, 1987-2007. Ratios were calculated using population estimates provided by the Central Department of Statistics and Information, Ministry of Economy and Planning, SA in conjunction with dermatologists' estimates provided by the Ministry of Health's statistical year-books, SA.[3-26]

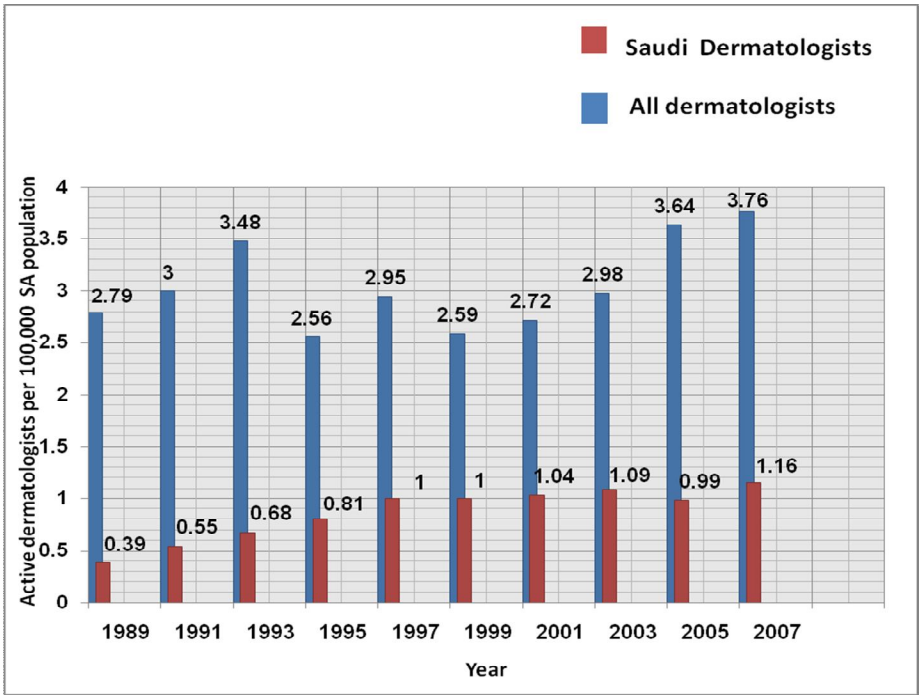

Figure 3: Active dermatologists per 100,000 in the SA population by administrative regions, 2007.[26, 50]