

## Development of the academic manpower of the Faculty of Medicine, Kuwait University (1995/96 – 2001/02)

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**Objectives** Determine the size and structure of the academic members of the Kuwait University, Faculty of Medicine, with emphasis on nationality, gender, and academic rank distributions in different academic departments in order to identify scarcity of Kuwaiti nationals at different departments.

**Methods** Survey involving review of the records in the Personnel Department, Faculty of Medicine about academic staff during the 7 years 1995/96 to 2001/2002. Available data included academic rank, gender and nationality.

**Results** Out of total 114 academic positions during 95/96, Kuwaiti nationals occupied 30 positions (26%); whereas, out of 179 academic positions during 2001/2002, Kuwaiti nationals occupied 82 positions (45%). The majority of Kuwaiti members were in the clinical departments (33% in 95/96 and 56% in 2001/2002 respectively), in particular, Depart-

ments of Medicine, Surgery, Obstetrics & Gynecology, Pediatrics, and Radiology. In the basic sciences departments, Kuwaiti academic staff were progressively increasing in Pathology and Microbiology. Female Kuwaiti academic staff are improving in Departments of Microbiology, Medicine, Obstetrics & Gynecology, and Pediatrics.

**Conclusion** Clinical sciences departments progressively attracted Kuwaiti national academic staff. The proportion of Kuwaiti faculty members is also improving in the two basic sciences departments, Microbiology and Pathology. However, there is scarcity of Kuwaiti members in the Departments of Anatomy, Nuclear Medicine, and Psychiatry.

*Key words:* Medical school, academic manpower, gender, academic rank, Kuwait

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### Introduction

Kuwait University established its Faculty of Medicine in 1973 with the objectives of producing high quality health care professionals and medical scientists and playing a major role in the development and upgrading of the Kuwait's health care system. The Faculty of Medicine has succeeded in developing into an internationally recognized medical school. The number of students enrolled in the program has increased from 48 in 1976 to the present 80 students per year.<sup>1</sup>

In addition to the professional services provided by the clinical academic staff serving the teaching hospitals and the specialized

units in other hospitals, each department in the Faculty of Medicine provides special services for the Ministry of Health including consultation services in various hospitals, sophisticated diagnostic tests, and a variety of highly specialized procedures including therapeutic drug monitoring and toxicological screening, as well as conducting seminars and workshops to the medical community about research methods in liaison with the Kuwait Institute for Medical Specialization (KIMS).

While there was a small number of Kuwaiti nationals appointed to administrative and academic positions at its inception, expatriate staff was mainly responsible for planning and conducting the undergraduate teaching program in most disciplines. The past two decades have witnessed a gradual reduction of the reliance on expatriates, as a result of the recruitment of Kuwaiti academic members who have attained postgraduate qualifications, especially in the clinical disciplines, and new graduates of the Faculty who joined as teaching staff after completing higher spe-

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cialization abroad. However, this strengthening of academic positions occupied by nationals has occurred to an appreciable extent only in some clinical departments, while in the basic sciences departments, the Kuwaiti nationals are still a minority.

Many of the past investigations on staffing in medical schools dealt with the subject of attracting medical graduates from minority, and under-privileged groups to academic teaching positions.<sup>2,3</sup> No studies have been reported on the academic staff structure in medical schools in the Gulf countries including Kuwait. The objectives of this study were to determine the size and structure of the academic members of the Faculty of Medicine, Kuwait University with emphasis on gender, nationality and academic rank distributions, in different academic departments in order to identify scarcity of Kuwaiti nationals at certain departments.

## Methods

This is a survey which involved review of the records maintained in the Personnel Department, Faculty of Medicine about academic members during the 7 years 95/96 to

2001/2002. Information obtained from these records were ascertained through matching with the employment records in the Recruitment Department of the Faculty of Medicine in order to ensure completeness and quality of the data. Visiting professors were excluded. Available data in the records included: appointment, academic year, rank gender, and nationality.

Coded data from the questionnaire were keyed in a personal computer using the *Statistical Package for Social Science (SPSS)* software *Windows* version. After checking data quality, it was processed using the cut-off level for statistical significances as  $p < 0.05$ . The chi-square for linear trend was used to assess the significance of the change in the number of faculty members throughout the studied years.

## Results

### DISTRIBUTION OF THE FACULTY OF MEDICINE ACADEMIC MEMBERS ACCORDING TO NATIONALITY

Table 1 depicts the distribution of academic members in the basic science and clinical departments according to nationality. During

Table 1. Distribution of Faculty of Medicine academic members according to nationality and academic department

Department	95/96		96/97		97/98		98/99		99/00		00/01		01/02	
	K	NK	K	NK	K	NK	K	NK	K	NK	K	NK	K	NK
<i>Basic sciences</i>														
<i>Anatomy</i>	-	7	-	9	-	6	-	6	-	7	-	7	1	6
<i>Biochemistry</i>	3	3	3	3	3	3	3	3	3	8	2	7	3	7
<i>Pharmacology</i>	3	6	2	7	4	4	2	4	3	4	3	6	3	6
<i>Microbiology</i>	2	12	3	12	2	11	2	12	2	13	2	14	4	15
<i>Physiology</i>	3	6	4	6	4	7	4	7	4	7	5	5	5	5
<i>Pathology</i>	1	13	1	12	1	12	1	12	2	12	6	12	6	10
<i>Clinical Sciences</i>														
<i>Medicine</i>	8	7	9	6	17	6	18	6	21	6	22	5	24	6
<i>Surgery</i>	3	6	3	5	7	4	8	6	10	6	11	6	14	6
<i>Obs. &amp; Gyn.</i>	2	2	2	3	3	3	4	3	5	3	8	3	6	3
<i>Pediatrics</i>	3	7	3	7	4	8	5	9	5	9	7	8	7	9
<i>Comm. Med</i>	2	8	3	9	3	8	3	8	3	8	3	8	3	9
<i>Nuclear Med</i>	-	3	-	4	-	6	-	5	-	4	-	5	-	7
<i>Radiology</i>	-	1	-	2	-	4	-	4	4	3	5	3	5	3
<i>Primary Care</i>	-	1	-	1	-	1	-	1	-	1	-	1	-	1
<i>Psychiatry</i>	-	2	-	2	-	3	-	3	1	2	1	4	1	4

the academic year 2001/2002, the Faculty of Medicine, Kuwait University had 179 academic members (82 Kuwaitis, K, and 97 non-Kuwaitis, NK; K:NK ratio was 1:1.18. In 1995/96, there were 30 Kuwaitis, 84 non-Kuwaitis, K:NK ratio was 1:2.8.

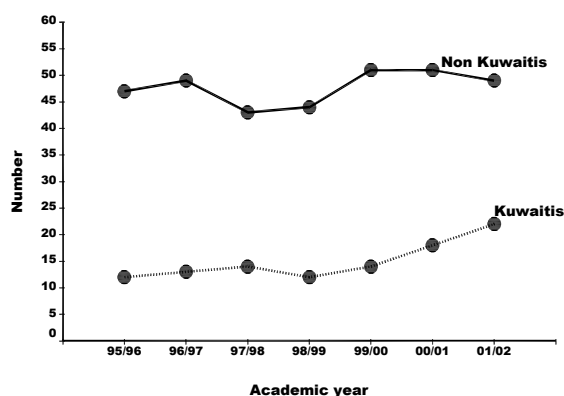
In basic science departments, the number of Kuwaiti members was about one-third of non-Kuwaiti members, K:NK ratio varied from 1:3.92 in 1995/96 to 1:2.23 in 2001/02 (Table 2). There was no single Kuwaiti aca-

**Table 2. Kuwaiti:non-Kuwaiti ratio of academic members, Faculty of Medicine, Kuwait University**

Dept.	K:NK Ratio						
	95/96	96/97	97/98	98/99	99/00	00/01	01/02
Basic sciences	1:3.92	1:3.77	1:3.07	1:3.67	1:3.64	1:2.83	1:2.23
Clinical sciences	1:2.05	1:1.95	1:1.26	1:1.18	1:1.7:1	1:33:1	1:25:1

ademic member in the Department of Anatomy until 2000/01, only one Kuwaiti member joined in 2001/02. Department of Pathology witnessed significant increase in the Kuwaiti faculty members (almost tripled) starting from 2001/02. The remaining basic science departments had the same number of Kuwaiti members throughout the studied years (Figure 1). There was no significant trend in the number of basic science academic members in both Kuwaitis and non-Kuwaitis (chi-square for linear trend= 2.07, p= 0.150).

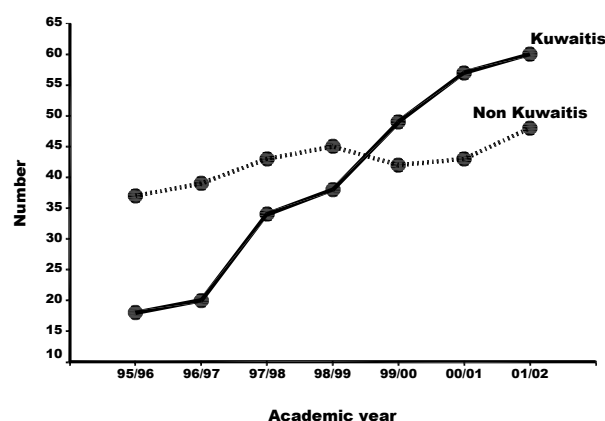
**Figure 1. Distribution of academic members in basic sciences by nationality**



In clinical science departments, Kuwaiti faculty members progressively increased, K: NK ratios were 1:2.05 and 1.25:1 in 1995/96 and 2001/02 respectively (Table 2). Kuwaiti

members exceeded non-Kuwaiti members starting from 1999/2000 (Figure 2). There was significant trend toward increase in the proportion of Kuwaiti members in the clinical sciences (chi-square for linear trend= 15.745, p< 0.001). There were no Kuwaiti members in

**Figure 2. Distribution of academic members in clinical sciences by nationality**



the Departments of Primary Care, Nuclear Medicine, and there was only one Kuwaiti faculty member in the Department of Psychiatry throughout the studied 7 years. The significant increase in Kuwaiti national members was notable in the Departments of Medicine, Surgery, Obstetrics & Gynecology, and Pediatrics. In the Department of Medicine, there was dramatic increase in the number of Kuwaiti faculty members starting from 1997/98, where the number of Kuwaiti members was 3 times the number of non-Kuwaitis and increased to 4 times at 2001/02. Similar pattern was observed in the Department of Surgery but to a lesser extent. The number of Kuwaiti surgeons was double the non-Kuwaitis in 1997/98 and maintained this increase progressively. Such trend towards increase in the number of Kuwaitis was significant in both departments (chi-square for linear trend= 5.051, p= 0.025 in Medicine; 4.153, p= 0.042 in Surgery).

In the Department of Obstetrics & Gynecology, Kuwaiti members started to exceed the number of non-Kuwaitis at 1998/99 and maintained this predominance until Kuwaitis were double of non-Kuwaitis in 2001/02. In the Department of Pediatrics, the number of Kuwaiti faculty members was on the increase, but still non-Kuwaitis outnumber Kuwaitis. In the Department of Community

Medicine and Behavioral Sciences, Kuwaitis constitute one-third of non-Kuwaiti members, this rate was fixed throughout the study period. In the Department of Radiology, there was no Kuwaiti faculty members until 1999/2000, when 4 Kuwaiti members joined and increased to 5 in 2000/01 predominating non-Kuwaitis (Table 1).

#### GENDER DISTRIBUTION OF KUWAITI FACULTY MEMBERS

Overall, male faculty members were more prevalent. Table 3 presents the gender distribution of the Kuwaiti academic members. All Kuwaiti members in the Departments of Community Medicine and Psychiatry were males, while males outnumber females at a variable degree in most departments. In basic sciences, there were 4 Kuwaiti female faculty members in the Department of Microbiology and no Kuwaiti males in 2001/02 and this increase made the number of females outnumber males, (chi-square for linear trend= 6.549,  $p= 0.01$ ). In the Department of Pathology, there were no Kuwaiti female academic members until 2000/01 when 3 females joined.

In clinical departments, Kuwaiti male faculty members outnumber females. However, Kuwaiti female members were increasing in the Departments of Medicine, Obstetrics & Gynecology and Pediatrics since 1998/99. There was only one Kuwaiti female surgeon in the Department of Surgery since 1997/98 (Table 3).

#### ACADEMIC RANK

During the 2001/2002 academic year, in the basic science departments, Kuwaiti nationals constituted 60% of Assistant Professors, 20.8% of Associate Professors, and 9% of Professors. This proportion was improving in the Department of Pathology. Table 4 shows the distribution of academic staff in the basic and clinical sciences according to academic rank. The rank pyramid is reversed in the Department of Microbiology which includes 10 Professors, 4 Associate Professors, and 5 Assistant Professors in 2001/02. There were also 6 Professors in the Department of Pathology, and the sudden increase in the number of Assistant Professors in 2000/01 was due to joining Kuwaiti graduates who have completed their higher specialization under the supervi-

Table 3. Distribution of Kuwaiti academic members, Faculty of Medicine according to gender and academic department

Department	95/96		96/97		97/98		98/99		99/00		00/01		01/02	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
<i>Basic sciences</i>														
Anatomy	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Biochemistry	2	1	2	1	2	1	2	1	2	1	1	1	1	2
Pharmacology	2	1	1	1	3	1	1	1	1	2	1	2	1	2
Microbiology	1	1	1	2	1	1	1	1	1	1	-	2	-	4
Physiology	3	-	4	-	4	-	4	-	4	-	4	1	4	1
Pathology	1	-	1	-	1	-	1	-	2	-	3	3	3	3
<i>Clinical Sciences</i>														
Medicine	7	1	8	1	16	1	17	1	18	3	19	3	20	4
Surgery	3	-	3	-	6	1	7	1	9	1	10	1	13	1
Obs. & Gyn.	1	1	1	1	1	2	1	3	2	3	4	4	3	3
Pediatrics	3	-	3	-	3	1	3	2	3	2	4	3	4	3
Comm. Med	2	-	3	-	3	-	3	-	3	-	3	-	3	-
Nuclear Med	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Radiology	-	-	-	-	-	-	-	-	3	1	4	1	4	1
Primary Care	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Psychiatry	-	-	-	-	-	-	-	-	1	-	1	-	1	-

Table 4. Distribution of Faculty of Medicine academic members according to academic rank and department

Department	95/96			96/97			97/98			98/99			99/00			00/01			01/02		
	Asst.	Assoc.	Prof.	Asst.	Assoc.	Prof.	Asst.	Assoc.	Prof.	Asst.	Assoc.	Prof.	Asst.	Assoc.	Prof.	Asst.	Assoc.	Prof.	Asst.	Assoc.	Prof.
<i>Basic sciences</i>																					
Anatomy	2	4	1	3	5	1	3	2	1	3	2	1	3	3	1	4	3	-	5	2	-
Biochemistry	3	2	1	1	4	1	1	3	-	1	5	-	4	7	-	1	8	-	2	8	-
Pharmacology	4	2	3	4	2	3	2	4	2	1	3	2	2	2	3	2	4	3	2	4	3
Microbiology	7	4	3	7	3	5	4	3	6	5	3	6	4	4	7	3	5	8	5	4	10
Physiology	4	2	3	4	2	4	5	2	4	4	3	3	4	3	4	4	3	3	2	5	3
Pathology	7	1	6	5	2	6	5	2	6	5	2	6	6	3	5	10	2	6	9	1	6
<i>Clinical Sciences</i>																					
Medicine	6	5	4	6	5	4	12	5	6	12	6	6	16	5	6	16	5	6	16	8	6
Surgery	3	5	1	2	5	1	4	6	1	6	5	3	8	5	3	8	6	3	11	5	4
Obs. & Gyn.	3	-	1	3	-	2	3	1	2	4	1	2	4	2	2	7	2	2	5	2	2
Pediatrics	4	4	2	3	5	2	3	4	5	5	4	5	5	4	5	8	4	3	9	4	3
Comm. Med	5	2	3	6	2	4	5	2	4	5	2	4	5	2	4	5	2	4	6	2	4
Nuclear Med	1	2	-	1	2	1	2	2	2	2	1	2	2	-	2	3	5	2	4	-	3
Radiology	-	-	1	-	-	2	3	-	1	3	-	1	6	-	1	6	1	1	6	1	1
Primary Care	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1
Psychiatry	1	1	-	1	1	-	2	1	-	2	1	-	2	1	-	4	1	-	3	2	-

sion of KIMS. The remaining basic science departments suffer from a deficit in the number of Kuwaiti faculty members.

In the clinical departments 60 Kuwaiti nationals occupied academic positions in 2001/02 out of 108 positions. Kuwaiti members constituted 70% of Assistant Professors, 50% of Associate Professors, 25% of Professors. The proportion of Kuwaiti faculty members was improving in the Departments of Medicine, Surgery, Obstetrics & Gynecology, Pediatrics and Radiology. There was a dramatic increase in the number of Kuwaiti Assistant Professors in the Departments of Medicine, Surgery, Obstetrics & Gynecology, Pediatrics, and Radiology.

## Discussion

Basic science departments except Pathology lack Kuwaiti faculty members to pursue their responsibility for the academic program in the future. This is particularly true in Anatomy where only one Kuwaiti exists. The rank pyramid in the Department of Microbiology is disturbed probably due to the many specialties accommodated under its umbrella.

The improvement in the proportion of Kuwaiti faculty members in the Department of Pathology and other clinical departments like Medicine, Surgery, Obstetrics & Gynecology, Pediatrics, and Radiology was due to the establishment of the national medical education system. This promising outcome was the result of foundation of the Faculty of Medicine, KIMS.

In contrast to the well-established Family Medicine setting in the Ministry of Health, the Department of Primary Care in the Faculty is a hypothetical, non-operational one which needs to be supported by academic members to undertake its role in medical education. Rarity of Kuwaiti faculty members was also apparent in the Departments of Nuclear Medicine and Psychiatry.

Male faculty members predominated females in most of the departments. In the meantime, female members were increasing in the Departments of Microbiology, Medicine, Obstetrics & Gynecology, and Pediatrics. This result is in concert with another study.<sup>4</sup> The number of women selected for leadership positions in academic medicine is keeping pace neither with the current avail-

ability of talented women faculty nor with our need for achieving gender balance. Even when women were as academically productive as men, they were less likely to advance academically.<sup>5</sup> There are many barriers to women's academic advancement and leadership opportunities. The main categories of issues relate to the conflicting demands of professional versus personal life; biases and unequal opportunities in professional life; and inherent differences in areas such as style, socialization, and expectations. The issue of balancing personal life and professional demands is an enormous challenge for women in medicine. The most complex aspect of this, of course, is raising a family, during the years that may have been the most essential for initiating career success.<sup>6</sup>

An analysis of the Kuwaiti academic staff strength on the basis of gender shows that it is heavily biased towards males, with the overall male: female ratio being approximately 5:1 in 1995/96 and 2.28:1 in 2001/02. At the level of individual departments, this gap is especially wide in Departments of Medicine and Surgery; the former having 7 males against 1 female, and the latter, 3 males without any female in 1995/96; while in 2001/02 Medicine had 20 males against 4 females, and Surgery 13 males against one female. The situation in the Department of Surgery reflects the fact that surgery is a male-dominated specialty, as has been reported in other studies.<sup>7,8</sup> At the meantime, though the total staff strength in the Department of Obstetrics & Gynecology is small, it is equally divided between the two sexes, which explains the preference of females to seek specialization in this field.

The proportion of US medical school graduates who are women has risen over the past two decades, from 23% in 1979 to more than 41% in 1997.<sup>9</sup> The representation of women on medical school faculties has also increased steadily during this period.<sup>10,11</sup> The faculties of medical schools, however continue to have substantially fewer women than their student entry proportion, and studies of the distribution of faculty members among ranks suggest that women are primarily in the lower ranks, whereas men are more equally distributed among the lower and higher ranks.<sup>12-14</sup> These findings are consistent with the results achieved from our study.

Studies of differences in academic promotion according to sex have had mixed results. Some studies have found that the promotion of women takes longer than that of men.<sup>15-18</sup> Others have found that within academic departments, women and men advance at the same rates or that sex differences in promotion rates disappear in younger cohorts.<sup>15,19,20</sup>

A study of specialty choices of postgraduate trainees in Kuwait<sup>21</sup> showed that 679 (363 males, 316 females) Kuwaiti medical graduates attained their higher postgraduate qualifications until year 1999, and that there was an excess of female postgraduates since 1993. The number of Kuwaiti medical graduates with higher professional qualifications significantly increased after 1985 due to the establishment of KIMS and Kuwait Faculty of Medicine. Excess of female postgraduates since 1993 was due to the social and cultural transitions witnessed by Kuwait.<sup>22</sup>

This review of the staffing strengths at the Faculty of Medicine, Kuwait University shows that while the major clinical departments have many Kuwaiti graduates, the basic science departments have insignificant numbers. This finding is in concert with that generally seen in most medical schools, where medical graduates who wish to pursue academic careers tend to prefer joining the clinical departments.

According to a study conducted on US medical schools, the slight increase in the overall number of faculty members masks variations across basic science and clinical departments. The Association of American Medical Colleges (AAMC) Faculty Roster showed that in 1997 about 25% of full-time faculty in basic science and clinical departments were women, an increase of 2% from 1994 when women represented 23% of full-time faculty.<sup>23</sup>

Some of the relatively less popular specialties, even among the clinical specialties may not be able to develop an adequate pool of qualified specialists. Furthermore, the number of female academic staff members in many disciplines is low, although the majority of admitted students at the undergraduate level are females.

In conclusion, this study provided valuable information about the development in the structure of Kuwaiti academic manpower in the Faculty of Medicine, Kuwait University

throughout the last 7 years. It is apparent that basic sciences departments lack Kuwaiti academic staff, in particular Department of Anatomy. Departments of Pathology and Microbiology succeeded to recruit Kuwaiti nationals. Female Kuwaiti faculty members are prevalent in the Department of Microbiology. The proportions of Kuwaiti faculty members are improving in the clinical science departments: Medicine, Surgery, Obstetrics & Gynecology, Pediatrics and Radiology, as a fruitful outcome of the intensive efforts of the Faculty of Medicine and KIMS. Further efforts are required to attract Kuwaiti nationals to attain their higher specialization in Nuclear Medicine, Primary Care and Psychiatry since there is scarcity of Kuwaiti members in these departments.

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