

**DEMOGRAPHY OF THE VETERINARY GRADUATES (1978-1998) FROM
THE FACULTY OF VETERINARY MEDICINE AND ANIMAL SCIENCE,
UNIVERSITI PUTRA (PERTANIAN) MALAYSI**

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SUMMARY

Between 1978-1998, the Faculty of Veterinary Medicine and Animal Science, Universiti Putra (formerly Pertanian) Malaysia produced 512 Doctor of Veterinary Medicine graduates. There were 319 males and 193 females and the class size ranged from 12 to 53 students. The male to female ratio ranged from 0.5:1 to 6:1 with an overall ratio of 1.7:1. A cross-sectional study in 1998 revealed that the veterinary alumni were between 25 and 48 years old, of which 58.2% were under 35 years old. The study also showed that 457 (89.3%) were employed, 25 (4.9%) were pursuing graduate studies, 14 (2.7%) were not employed and 16 (3.1%) were not traceable. Those employed were in civil service (43.8%), the private sector (39.8%) and self-employed (5.7%). The main jobs in civil service were with the Department of Veterinary Services (112), tertiary institutions (65) and research institutions (25) while those in the private sector were with farm management (62), small animal practice (43), pharmaceutical-technical services (40) and animal feed-mills (28). There were twice as many male compared to female in all job categories except in education and small animal practice where the numbers were about the same. Slightly higher proportion of female (89/160) was in the civil service whereas a higher proportion of the male (164/295) was in the private sector. The trend indicates that employment in private sector is increasing for both males and females.

Keywords: Demography, veterinary graduates, Malaysia

INTRODUCTION

The Faculty of Veterinary Medicine and Animal Science (with effect from 1 January 1999, Faculty of Veterinary Medicine, one of the three foundation faculties of Universiti Pertanian Malaysia (with effect from 3 April 1997, Universiti Putra Malaysia) was established in 1972. The first intake of students for the Doctor of Veterinary Medicine (DVM) programme registered for the July 1973/74 academic session and graduated in July 1978 following a 5-year academic programme. The University's August 1998 convocation ceremony saw the 21st class graduating. The Universiti Pertanian Malaysia Veterinary Alumni Association (UVA) was conceptualised in 1981 and the inaugural meeting was held in 1983. The registration of UVA was approved in March 1985.

This paper is the first comprehensive study of the demography of the veterinary alumni. It was initiated by UVA to gather information for a forum entitled "Marketability of UPM Veterinary Graduates" held in conjunction with the UVA Annual General Meeting in September 1998.

MATERIALS AND METHODS

Information and data on the graduates were gathered from the University's graduation books, current individual records kept by the UVA and the calling cards of alumni. Representatives from each

class of graduates were appointed to help in the tracing exercise. This study was carried out between April and August 1998.

RESULTS

Sex and age

Table 1 reveals the class size and sex ratio of the graduates. In a period of 21 years, 512 DVM have graduated of which 319 (62.3%) were male and 193 (37.7%) were female. The graduate class number ranged from 12 to 53 students. The male to female ratio ranged from 0.5:1 to 6:1 with an overall ratio of 1.7:1. The class size increased from the planned 30 to more than 50 in later years following a national policy of increased university enrolment. Female graduates gradually increased and eventually surpassed the number of males in the 1998 class.

Most graduates were about 25 years old at graduation. At the time of this study, alumni were between 25 and 48 years old (Fig. 1). There were more (40.8%) alumni in the 30-39 years age group followed by the 25-29 years (38.7%) age group, and the least were in the 40-49 years age group (20.5 %). More male graduates (43.3%) were in the over 35-year age group whereas most female (57.5%) graduates were in the under 30-year old group.

Table 1. Class size and gender of DVM graduates

Year	Total	Male	%	Fem.	%	Male:Fem
1978	14	12	85.7	2	14.3	6.0:1
1979	22	14	63.6	8	36.4	1.8:1
1980	18	15	83.3	3	16.7	5.0:1
1981	12	10	83.3	2	16.7	5.0:1
1982	20	17	85.0	3	15.0	5.7:1
1983	19	14	73.7	5	26.3	2.8:1
1984	19	14	73.7	5	26.3	2.8:1
1985	23	13	56.5	10	43.5	1.3:1
1986	20	17	85.0	3	15.0	5.7:1
1987	23	18	78.3	5	21.7	3.6:1
1988	24	18	75.0	6	25.0	3.0:1
1989	22	12	54.5	10	45.5	1.2:1
1990	21	11	52.4	10	47.6	1.1:1
1991	17	13	76.5	4	23.5	3.3:1
1992	14	8	57.1	6	42.9	1.3:1
1993	26	9	34.6	17	65.4	0.5:1
1994	37	20	54.1	17	45.9	1.2:1
1995	37	21	56.8	16	43.2	1.3:1
1996	34	14	41.2	20	58.8	0.7:1
1997	37	25	67.6	12	32.4	2.1:1
1998	53	24	45.3	29	54.7	0.8:1
Total	512	319	62.3	193	37.7	1.7:1

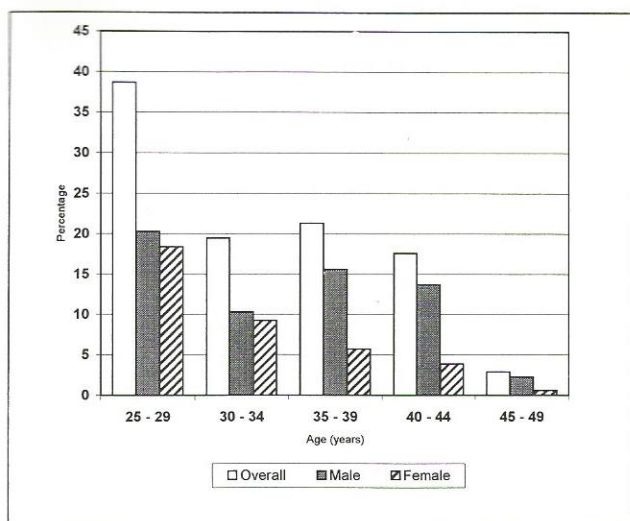


Fig. 1. Age distribution of DVM alumni

Employment

Information on employment was available for 496 of the 512 (97%) alumni. A total of 186 of 193 (96.4%) female and 310 of 319 (97.2%) male alumni responded. The response rate for each class ranged from 85-100%. The response rate was 100% in 11 classes, more than 90% in 8 classes and 85% in 2 classes.

The employment status of the DVM graduates is shown in Fig. 2. The individual class employment status and distribution are shown in Table 2. Civil service (43.8%) was the main employment sector followed closely by the private sector (39.8%). A small percentage was either self-employed (5.7%) or pursuing graduate studies (4.9%). Unemployment (2.7%), mainly females who had taken time off to raise a family and the non-traceable (3.1%) were low.

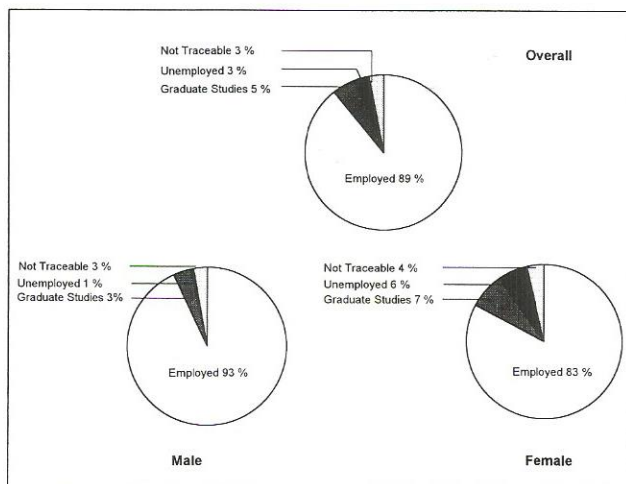


Fig. 2. Employment status of DVM graduates

Table 3 shows the job categories of the 457 graduates (excluding those pursuing graduate studies). Those in the civil service were mainly in the Department of Veterinary Services and a small number were in tertiary institutions. Graduates employed by the private sector were mainly in farm management, pharmaceutical-technical services and small animal veterinary practice. Those pursuing graduate studies were mainly in local universities, mainly at the Faculty of Veterinary Medicine, UPM). The self-employed alumni were in business and marketing.

There were twice as many more male in all job categories except in education and small animal practice where the distribution was similar for both male and female. Slightly higher proportion of females were employed in the civil service (48.9%), while the 42.9% males were employed in the civil service. The proportion of females (7.5%) pursuing graduate studies was twice when compared with males (3.5%) but the percentages of self-employed females (6.5%) and males (5.5%) were comparable.

The trend for the veterinary employment sectors is shown in Fig. 3. Employment opportunities in the private sector have increased and overtaken the civil service sector, from 35.7% in 1978 to 54.7% in 1998. Self-employment has slowly increased, from 0% in 1978 to 1.9% in 1998 with 16.2% in 1994. Employment in the civil service has decreased from 49.8% in 1978 to 18.9% in 1998. The trend for

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Table 2. Employment status of DVM graduates according to class

Class	Employed			Graduate studies	Unemployed	Not Traceable	Total	Percentage Employed
	Civil	Private	Self					
1978	9	5	0	14	0	0	14	100
1979	16	5	1	22	0	0	22	100
1980	10	8	0	18	0	0	18	100
1981	11	0	0	11	0	1	12	91.7
1982	17	2	1	20	0	0	20	100
1983	12	7	0	19	0	0	19	100
1984	13	5	0	18	0	1	19	94.7
1985	15	6	1	22	0	1	23	95.7
1986	10	5	1	16	0	3	20	80.0
1987	6	11	3	20	0	2	23	87.0
1988	13	7	3	23	0	0	24	95.8
1989	11	8	1	20	0	1	22	90.9
1990	11	8	1	20	0	0	21	95.2
1991	7	8	1	16	0	1	17	94.1
1992	5	7	0	12	0	2	14	85.7
1993	13	9	3	25	1	0	26	96.2
1994	12	12	6	30	4	3	37	81.1
1995	8	23	0	31	2	3	37	83.8
1996	7	19	2	28	5	0	34	82.4
1997	7	21	4	32	4	0	37	86.5
1998	11	28	1	40	9	0	53	75.5
Total	224	204	29	457	25	14	512	89.3
%	43.8	39.8	5.7	89.3	4.9	2.7	100	

Table 3. Distribution of DVM graduates according to employment sector

Sector	Total Number	Male		Female	
		Number	%	Number	%
Civil	224	133	59.4	91	40.6
Department of Veterinary Services	112	70	62.5	42	37.5
Tertiary Institutions	65	32	49.2	33	50.8
Secondary School	7	2	28.6	5	71.4
Research	25	16	64.0	9	36.0
Zoo/Wildlife	5	5	100.0	0	0.0
Other Government Services	10	8	80.0	2	20.0
Private	204	147	72.1	57	27.9
Farm Management	62	46	74.2	16	25.8
Pharmaceutical/Technical Services	40	31	77.5	9	22.5
Feedmills	28	24	85.7	4	14.3
Marketing	16	11	68.8	5	31.3
Small Animal/Mixed Practices	43	23	53.5	20	46.5
Private Colleges	4	3	75.0	1	25.0
Miscellaneous	11	9	81.8	2	18.2
Self-Employed	29	17	58.6	12	41.4
Graduate Studies	25	11	44.0	14	56.0
Unemployed	14	2	14.3	12	85.7
Total Responded	496	310	62.5	186	37.5
Not Traceable	16	9	56.3	7	43.8

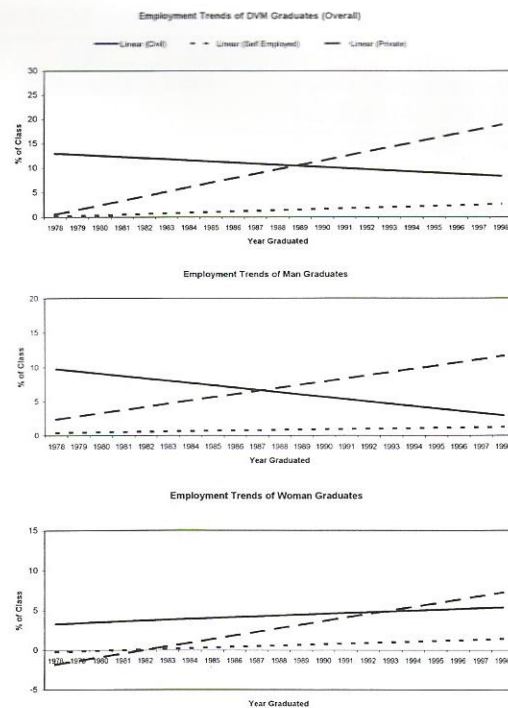


Fig. 3. Employment trends of DVM graduates

Table 4. Distribution of DVM graduates according to field of employment

Sector	Total Number	Male		Female	
		Number	%	Number	%
Veterinary-Related	413	279	67.6	134	32.4
Department of Veterinary Services	112	70	62.5	42	37.5
Tertiary Institutions	60	30	50.0	30	50.0
Research	25	16	64.0	9	36.0
Zoo/Wildlife	5	5	100.0	0	0.0
Other Government Services	8	7	87.5	1	12.5
Farm Management	62	46	74.2	16	25.8
Pharmaceutical/Technical Services	40	31	77.5	9	22.5
Feedmills	28	24	85.7	4	14.3
Small Animal/Mixed Practices	43	23	53.5	20	46.5
Self-employed	13	11	84.6	2	15.4
Marketing	11	10	90.9	1	9.1
Miscellaneous	6	6	100.0	0	0.0
Non-Veterinary Related	44	18	40.9	26	59.1
Marketing	5	1	20.0	4	80.0
Tertiary Institutions	5	2	40.0	3	60.0
Private Colleges	4	3	75.0	1	25.0
Secondary Schools	7	2	28.6	5	71.4
Self-employed	16	6	37.5	10	62.5
Other Non-Veterinary Govern. Services	2	1	50.0	1	50.0
Miscellaneous	5	3	60.0	2	40.0
Graduate Studies	25	11	44.0	14	56.0
Unemployed	14	2	14.3	12	85.7
Total Responded	496	310	62.5	186	37.5
Not Traceable	16	9	56.3	7	43.8

employment of male and female in the sectors is also shown in Fig 3 with job opportunities increasing in all sectors. At the time of this study, the trend lines showed that there were more males and females in the private sector (including self-employment) and less were in the civil service.

Of the 457 employed graduates, 90.4% were in veterinary-related jobs while 9.6% were in non-veterinary related jobs. Of the latter, many were in education and self-employment. There were relatively more females in the non-veterinary sector and jobs. Table 4 shows the types of job and the number of alumni involved.

DISCUSSION

The establishment of the Faculty of Veterinary Medicine in UPM has ensured that veterinary manpower training is carried out in the country to meet the national needs. It also ensures the availability of personnel who are knowledgeable and skilled, especially in local conditions of the animal industry. Collaboration with veterinary schools in Australia and Canada during the planning stages of the Faculty has ensured that the curriculum is of international standard. This standard is appraised annually at the end of the 5-year programme when the potential graduates undergo a comprehensive examination conducted by a panel of external examiners, who test candidates on their ability to apply and practice veterinary medicine.

The number of veterinary graduates from UPM is substantial, accounting for more than half of the country's veterinary human resource. Almost all graduates are employed. Those who are not, are so by choice; mainly involving a small number of females who have taken time off to care for their families.

Most of the graduates are employed in veterinary-related fields in the civil service and private sector. The employers in the civil service are the Department of Veterinary Services in the Ministry of Agriculture and the Faculty of Veterinary Medicine and Animal Science, UPM. In the private sector, most of the graduates are in farm management, pharmaceutical-technical services and veterinary practice while a smaller percentage are in marketing and retailing. It is heartening to note that the trends in employment are changing. Although actual number of graduates employed in each sector has increased, the trend is towards more job opportunities in the private sector.

The number of female graduates has increased markedly. The ratio of female to male entering veterinary professional training is increasing worldwide; this is also evident in Malaysia. Consequently there will be more female veterinary graduates entering

the workforce. Although there are currently more in the civil service, the trend shows that more graduates are entering the private sector. Some of the reasons cited by both males and females for not working in the private sector (particularly in farms) were that the farms were isolated, living conditions were too basic and/or lacked security, while jobs in the pharmaceutical-technical sector involved excessive travelling.

The veterinary alumni is young, only 21 years old and 58.2% of the alumni have less than 10 years of working experience. Yet, many are in major administrative posts contributing to the development of the veterinary profession, animal industry and manpower training. There are plenty of opportunities for the alumni to contribute in other areas too, such as in the revision of the DVM curriculum, the expansion and future development of the faculty, as well as research.

Changes are taking place in the veterinary employment trend; from civil service to private sector, self-employment expansion, and an increasing number of female graduates being absorbed into the profession. Thus, necessary modifications have to be made to the curriculum to better prepare the graduates for careers in their chosen sector so that they can better serve the needs of the profession and industry. The curriculum should increase its emphasis on veterinary and farm economics, resource management in veterinary practice and offer more business management electives in addition to the current emphasis on professional knowledge and skills. However, will these changes persist with the increasing number of female graduates? The total number of male and female pursuing graduate studies is also increasing. Where and how will they fit in the profession and industry? Only time will tell.

In conclusion, it is hoped that this demography of the alumni will be useful information for the planners at the Faculty and profession to use for future development or expansion of curriculum and human resource training.

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RINGKASAN

DEMOGRAFI GRADUAN VETERINAR (1978-1998) DARIPADA FAKULTI KEDOKTORAN VETERINAR DAN SAINS PETERNAKAN, UNIVERSITI PUTRA (PERTANIAN) MALAYSIA

Di antara tahun 1978-1998, Fakulti Kedokteran Veterinar dan Sains Peternakan, Universiti Putra (dahulu Pertanian) Malaysia menghasilkan 512 graduan Doktor Perubatan Veterinar. Jumlah ini terdiri daripada 319 orang perempuan dan 193 orang lelaki dengan saiz kelas di antara 12 hingga 53 pelajar. Nisbah lelaki dengan perempuan di antara 0.5:1 hingga 6:1 dengan nisbah keseluruhannya 1.7:1. Satu kajian keratan lintang pada tahun 1998 menunjukkan yang alumni veterinar kini berumur di antara 25 hingga 48 tahun, daripada mana 58.2% berumur kurang daripada 35 tahun. Kajian juga menunjukkan 457 (89.3%) bekerja, 25 (4.9%) mengikuti pengajian siswazah, 14 (2.7%) tidak bekerja dan 16 (3.1%) tidak dapat dikesan. Di antara yang bekerja ialah dalam perkhidmatan awam (48.3%), sektor swasta (39.8%) dan bekerja sendiri (5.7%). Pekerjaan utama dalam perkhidmatan awam ialah Jabatan Perkhidmatan Haiwan (112), institusi pengajian tinggi (65) dan institusi penyelidikan (25) sambil untuk sektor swasta pula pekerjaan mereka adalah dalam pengurusan ladang (62), amalan haiwan kesayangan (43), perkhidmatan farmaseutikal-teknikal (40) dan kilang makanan haiwan (28). Dalam kesemua kategori pekerjaan, terdapat dua kali ganda lebih lelaki daripada wanita kecuali dalam pendidikan dan amalan haiwan kesayangan di mana bilangan sama banyak. Perkadaran wanita dalam perkhidmatan awam lebih sedikit (89/160), sambil dalam sektor swasta pula perkadaran lelaki agak lebih (164/295). Trend ini menunjukkan yang pekerjaan dalam sektor swasta sedang meningkat untuk keduanya, lelaki dan wanita.