

Saudisation of the nursing workforce: Reality and Myths about planning Nurse Training in Saudi ArabiaSana Al-Mahmoud¹, Penelope M Mullen² and Peter Spurgeon²¹College of Nursing, University of Dammam, Saudi Arabia.²Medical School, University of Warwick, UK

Abstract: Background: The majority of nurses in the Saudi health system are expatriates and Saudisation of nursing faces difficulties in attracting students and retaining Saudi nurses in the workforce. **Objectives:** Whilst previous studies have focused on cultural and religious issues, this paper focuses on the Saudi nurse-training pathway and its contribution to Saudisation. **Method:** In the absence of centrally-collected data, a survey of all nurse-training institutions in KSA was conducted. **Results:** It was found there has been a great increase in the number of places, but the vast majority are at Diploma level. Considerable regional disparities were observed and the private sector is playing an increasing role in provision. Whilst males have over half the places there is no degree-level provision for them. **Conclusions & Recommendations:** It is concluded that to achieve Saudisation more places, central data collection and planning are needed. In addition, regional and gender disparities in provision might affect Saudisation negatively. Despite the fact that applications exceed places, there are fewer entrants than places. It is difficult to determine the exact number of qualified applicants and thus to conclude how strong demand for places is. Recommendations are made relating to planning and policy issues, nursing education and attracting more students. More attention should be given to publicising and making the nursing profession more attractive. For example, salaries for Saudi nursing staff should be increased. A nursing admissions service should be established which provides high school leavers with the information they need about nursing and job guarantees should be offered to nursing graduates.

[Sana Al-Mahmoud, Penelope M Mullen and Peter Spurgeon. **Saudisation of the nursing workforce: Reality and Myths about planning Nurse Training in Saudi Arabia.** Journal of American Science 2012; 8(4): 369-379]. (ISSN: 1545-1003). <http://www.americanscience.org>. 50

Keywords: Saudi Arabia, nursing profession, nurse training, nurse planning, nurse workforce

1. Introduction

Nurses are considered to be the cornerstone of the health team, ensuring the continuity of health care provision and contributing almost 80% of the total care received by the individual. Therefore, a nursing cadre with the requisite skills and attitudes is essential to effective delivery of the health system (Ayoub, 1988).

The nursing needs of Saudi Arabia far exceed the supply of Saudi nurses with Saudi students tending to choose careers other than nursing which offer higher financial rewards and greater prestige (Al-Hamadi, 1999).

In Saudi Arabia, many health professionals are expatriates of various nationalities (Miller-Rosser *et al.*, 2006). According to El-Sanabary (1993), the dependency on expatriate nurses, who make up 76% of the total nursing workforce in Saudi Arabia as recorded in the Saudi Ministry of Health Annual Report (2005), creates barriers between patients and nurses because of differences in religion, culture, social values and relatively short-term commitments. Further, nursing as a career tends to be considered more as a "female" profession, but in the Kingdom of Saudi Arabia the participation of women in nursing is very limited. This places particular stress on the primary-care sector which requires sensitivity in the

care of women and children in the community. In addition, the extensive expatriate nursing workforce, which is both cyclical and transient, is of late reducing in numbers (MOH, 2005)

These factors, together with the increased demand for health care personnel, emphasize the need to pay more attention to attracting Saudi nationals into the nursing profession.

Saudisation, the process of filling posts with Saudi nationals, is already underway and reasonable success has been achieved in other sectors such as education, but much more is needed to achieve the objective in the Saudi Health System. In 1992, the monarchy of Saudi Arabia issued a royal decree for the Saudisation of the workforce, including nursing, to replace the largely expatriate workforce and their escalating salaries (Tumulty, 2001). The decree demanded that Saudi nationals be educated or trained in all areas of employment to replace current expatriate workers. Health care is one of the largest sectors within Saudi Arabia engaged in the process of Saudisation and the Saudi Ministry of Health is specifically targeting nurse recruitment (Miller-Rosser *et al.*, 2006).

The target during the Saudi Fifth Development Plan (1990-1995) was one physician per 500 inhabitants and one nurse and one health technician

per 225 inhabitants. Achieving this ambitious objective would have required the training of 4200 physicians, 565 specialist physicians, 5880 nurses, and 7560 health technicians yearly. The target was overwhelming with Saudi medical and nursing colleges and institutes training only a small fraction of what is required (Saudi MOH, 1997).

The problem of national nursing shortages in Saudi Arabia is made up of many factors. The dependency on expatriates originated with the rapid expansion of the Saudi Health System and the introduction of new technologies in the 1980s. Too few nationals were available to cope with the expansion or with the skills to operate the newly introduced technologies.

Despite nursing's long and respected history during the period of Prophet Mohammed, in more recent times it has not been considered a respectable profession for women in Saudi Arabia (Mansour, 1994). Many families in Saudi Arabia do not see nursing as an appropriate area of study for women (Phillips, 1989). El-Sanabary (1993) reported that concern over their reputation and honour limits participation of Saudi women in nursing. Many Saudi families discourage their daughters from studying or enrolling in the profession because they believe that the mixing of the sexes and caring for male patients might expose their daughters to moral corruption (Hamdi and AlHaidar, 1996). El-Sanabary (1993) noted however that while sharing the same working conditions other health professionals, in particular doctors, have not been stigmatised in the same way as nurses.

Saudi men who choose nursing also face criticism from family and friends. Miller-Rosser *et al.* (2006) reported one Saudi male nurse as saying that his mother refused to tell her friends that her son is a nurse. When he was observed working in the hospital his mother reported that he was a doctor.

Alawi and Mujahid (1982) reported that Saudi society perceived nurses as being uneducated, over-emotional, manual labourers, who do the "dirty work" of medical care that should be done by foreigners. It is also generally believed that mixing of sexes in the workplace, which is unavoidable in hospitals despite being prohibited by Saudi law, promotes immorality. It is clear that such a hostile attitude reflects both a view of nursing and of the status or worth of non-Saudis.

Over the years there has been a substantial literature which discusses and provides evidence as to the impact of religious factors, socio-cultural attitudes, the poor image attached to nursing, unattractive working conditions and a lack of options for balancing work and family responsibilities on the perception of the role of nursing. Additionally, a lot

of attention has been given to motivation and cultural issues and reasons for dropout (Alawi and Mujahid, 1982; Rehem, 1986; Alnimir, 1988; Al-Ashgar, 1990; AlHaidar, 1990; El-Sanabary, 1993; Al-Osaimy, 1994; Hamdi and AlHaidar, 1996; AlMunajjed, 1997; Tumulty, 2001; Al-Omar, 2003; Miller-Rosser *et al.* 2006)

However, there appears to have been little attention given to issues of the internal supply of Saudi nurses, i.e. to the training system, numbers and attitudes of nursing students and their subsequent career pathway. There is also anecdotal evidence that some applicants are not able to obtain a place in a nursing training institution, in some cases because their high-school GPA is insufficient to meet the often very high requirement for entry to a nursing training institution. In addition, the number of private nurse training institutions is increasing every year which suggests that there are insufficient places to accommodate demand from applicants.

Currently there are three types of nurse training institutions in the KSA (Health Institutes, Health Science Colleges and Nursing Colleges in Universities). Most are run by the Ministry of Health (MOH), the Ministry of Higher Education (MOHE) or the Military, but some are run by the private sector (Saudi Council for Health Specialties 2006).

To reflect the development and expansion of the health services and facilities in the Kingdom of Saudi Arabia (Hamdi and Al-Haidar 1996), and to cater for different jobs within hospitals or primary health care centres at community level, three levels of nursing were identified, as documented in the Specialised National Councils (2005).

The first level is "Technical Nursing" carried out by graduates of health institutes with a Diploma qualification awarded after two-and-a-half nursing education including clinical practice. The second is "Qualified Nursing" carried out by graduates of advanced health science colleges who are awarded Higher Diploma certificates, which require three-and-a-half years nursing education including clinical practice. The third level is "Nurse Specialist", made up of graduates of universities or colleges who have received a Baccalaureate Science award in nursing (BSN). The BSN degree involves five years nursing education, including a one-year internship or training in a university hospital (MOH, 2005).

Aims:

This study aims to contribute to the understanding of the reasons for the shortage of Saudi nurses and identify possible strategies to alleviate that shortage by focusing on the training pathway of Saudi nurses (see Figure 1). An initial focus to determine whether there is a shortage of

nurse training places to accommodate qualified applicants was subsequently widened to consider

other aspects of Saudi nurse training and its adequacy to meet the needs of Saudisation.

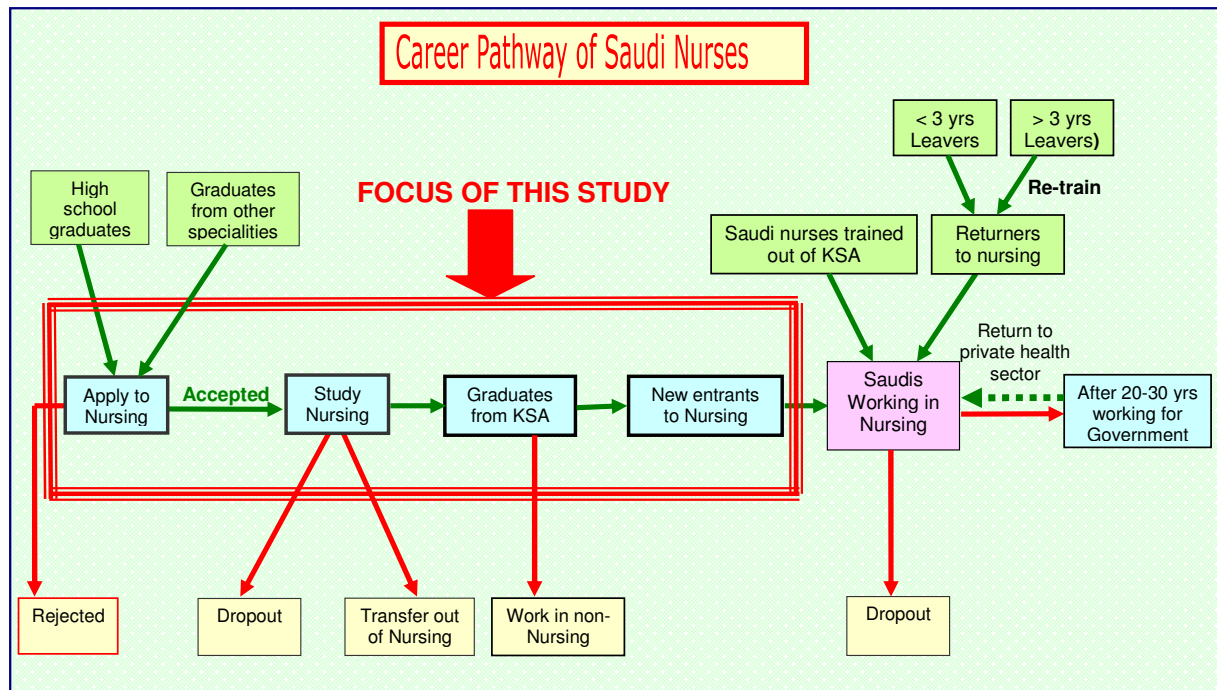


Figure 1: Career Pathway of Saudi Nurses (showing focus of the current study)

2. Methodology

As basic data relating to nurse-training places, applications and graduates were not available or even collected nationally or regionally, a survey of individual nurse-training institutions was conducted to gather this data.

Target Population:

The target population included all 99 institutions existing in 2003, which train and teach nursing as a profession in Saudi Arabia. As comprehensive data were required, all institutions were surveyed.

Questionnaire Design:

A self-completion questionnaire in English, using mainly closed but with some open-ended questions, was designed. The 12 questions sought a range of data including year of establishment, type and length of diplomas awarded, fees charged (where applicable), number of places, number of applicants, entrants, graduates and percentage of graduates taking employment as nurses for each of the years 1998 to 2003 inclusive. The draft questionnaire and covering letter were handed to the supervisor general of nursing in the MOH (Directorate of Health Affairs) and the chairman of the nursing committee in the SCFHS for checking and comment and then amended accordingly.

Conduct of Survey:

The survey was conducted in September and October 2004. After phoning or visiting each institution, 99 questionnaires were sent, e-mailed or handed personally to an "authority person" in that institution, to ensure that they were received. The researcher and/or her representative visited each institution to distribute (where appropriate) and to collect the questionnaire from respondents. Some delays and complications were encountered in obtaining approval for the researcher to visit some of the female institutions. As permission could not be obtained for her to visit any of the male institutions, these were contacted by phone and a representative was sent to hand out and collect questionnaires. Information about some institutions, especially those under the Military sector, proved particularly difficult to obtain. Because of the method of administration and follow-up, a 100% response rate was achieved with all completed questionnaires being received by early October.

Later, some limited data for institutions opened in 2004-2005 was obtained. In addition, the estimated number of applicants was calculated by adjusting the total number of applications reported by the institutions by an estimate of the multiple application rate obtained from a subsequent survey of nursing students.

3. Results

National Provision of Institutions and Places:

Recent years have seen a vast increase (from 100 in 1967 to nearly 6000 by 2005 (5605 by 2003) in the estimated number of places available to first-year students (Figure 2).

The Ministry of Health provided nearly 60% of all places in its 37 institutions. Whilst the private sector accounted for nearly half of all institutions (49), it provided less than a third of places (Table 1).

Eighty of the 99 institutions in existence in 2003, with 76.6 % of places, provided Diploma

certificates, while only 6 institutions, with 7.4 % of places, awarded the Bachelor Science of Nursing (BSN), with the remaining 13 offering the Higher Diploma (Table 2).

Although there are slightly more Saudi females (50.9%) than Saudi males in the 17-25 age group, in 2003 more institutions and places were provided for males than females. However, as is observed in Table 2, at that time there were no places at all for males to study for the BSN degree, and male students had fewer Higher Diploma places than female students.

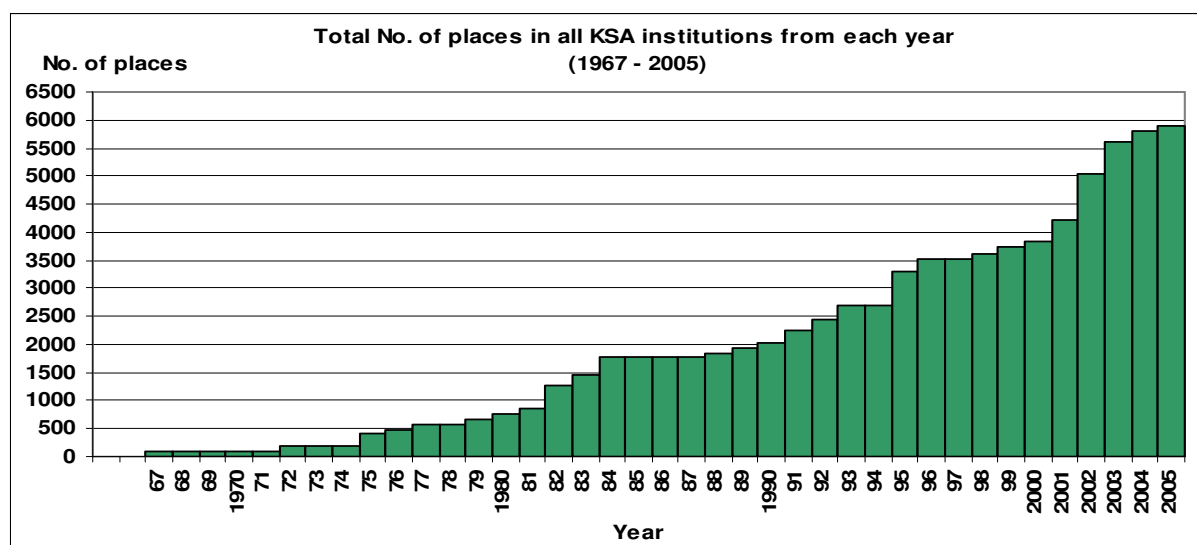


Figure 2: Total Number of places in all KSA institutions from year 1967-2005

Table 1: Institutions by Type (2003)

Institutions Type	No. of institutions	% of institutions	Estimated No. of first-year places	% of first-year places available
Military	10	10.1%	325	5.8%
MOH	37	37.4%	3295	58.8%
MOHE	3	3.0%	240	4.3%
Private	49	49.5%	1745	31.1%
Total	99	100	5605	100

Table 2: Places by Type of Qualification and Gender (2003)

Type of Qualification	Male		Female		All	
	Number of places	% of type	Number of places	% of type	Number of places	% of total places
BSN	0	0.0%	415	100.0%	415	7.4%
Higher Diploma	395	44.1%	500	55.9%	895	16.0%
Diploma	2530	58.9%	1765	41.1%	4295	76.6%
Total	2925	52.2%	2680	47.8%	5605	100
% of Saudi population aged 17- 25 years	49.1%		50.9%		100%	

National Trends in Applicants, Places and Entrants (1998-2003):

Over the six year period (1998-2003) the estimated number of places grew by over 50%, while at the same time the number of applicants more than doubled and the number of entrants almost quadrupled (Figure 3). As a result, over that period, the ratio of applicants to estimated places grew from unity to about 1.5, while the ratio of applicants to entrants dropped from nearly 3.5 to just over 2. Throughout the period there were fewer entrants than estimated places, with the figures suggesting the percentage of places filled rose from less than 30% to about 70%. However, the apparent low percentages

in the earlier years should be treated with caution as the number of available places has probably been overestimated for those years. Overall, similar ratios are observed for both male and female applicants and entrants.

However, the picture is rather different by type of qualification. In every year there were at least four times as many applicants as entrants for the BSN, but the number of applicants for the Higher Diploma equalled the number of entrants in each year (Figure 4). Whilst for no certificate type were all the estimated number of places filled, the percentage of BSN places filled consistently exceeded that of other types, reaching 97% in 2002.

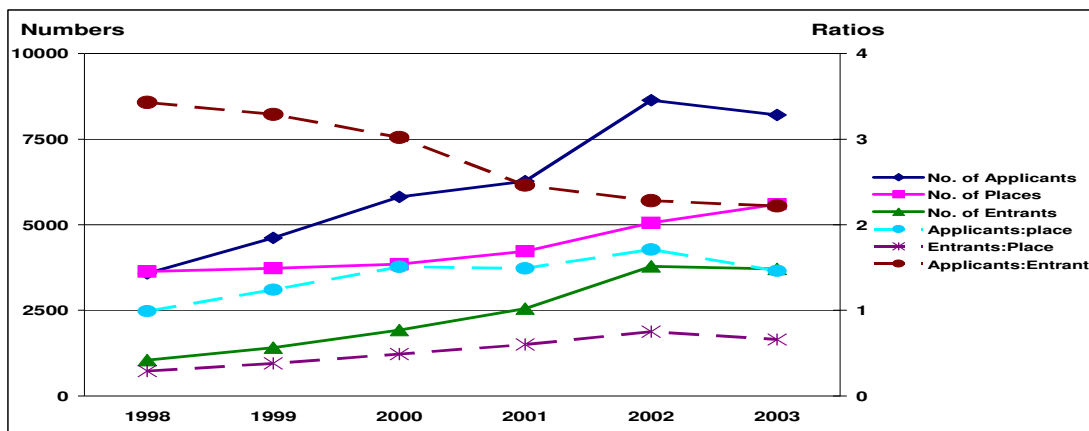


Figure 3: Places, Applicants and Entrants to KSA Institutions Each Year (1998-2003)

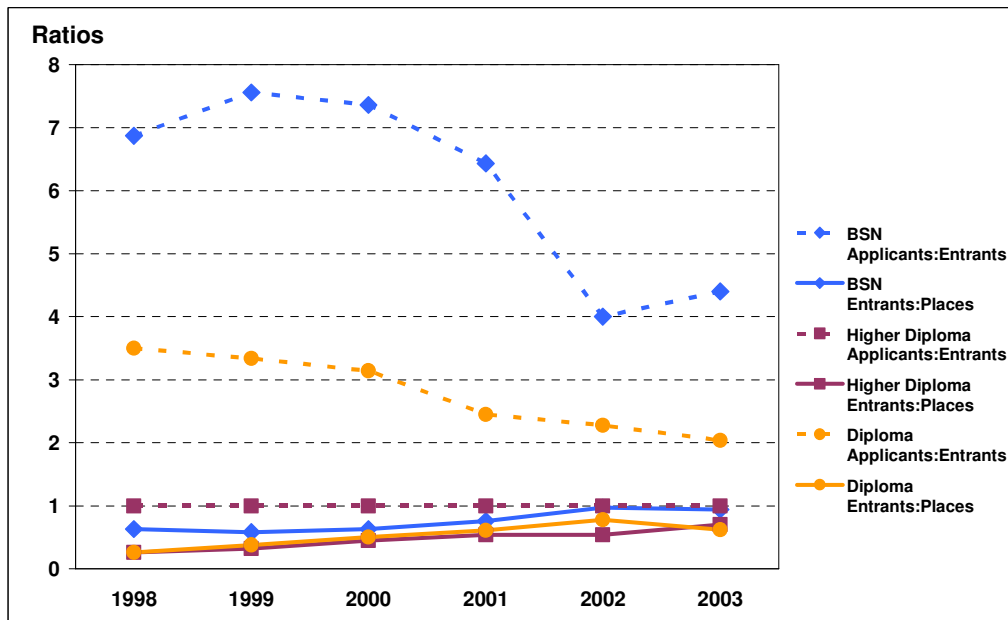


Figure 4: Ratios of Applicants, Entrants and Places by Type of Qualification (1998-2003)

This pattern is reflected in the ratios by institution type (Figure 5). Ministry of Higher Education institutions, which until 2002 were the only ones to offer BSN places, consistently have over five times as many applications as entrants. For other institutions, the ratio is generally between 1.5 and three. It is worth noting that in 2002 a military

institution opened offering 100 BSN places as did a private institution offering 25 BSN places, with another opening in 2003 offering a further 50 places. For all institution types, places exceed entrants, but consistently military and Ministry of Higher Education institutions filled the highest percentage of their places.

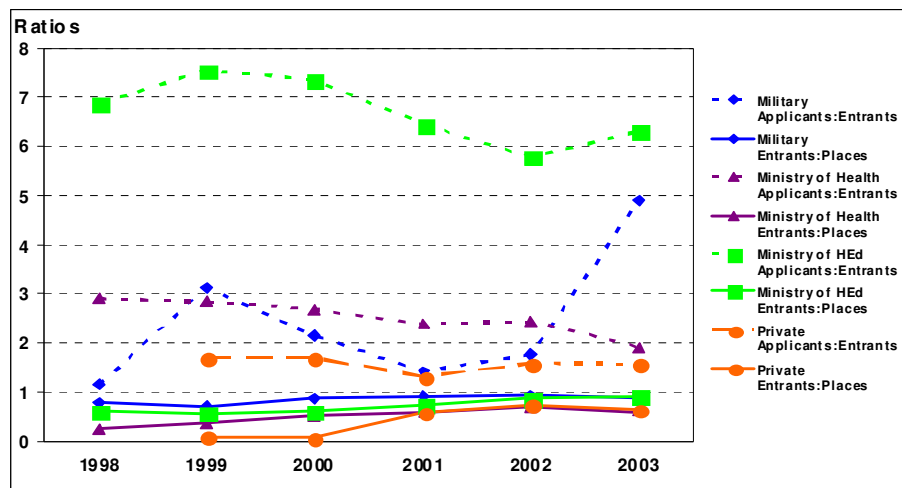


Figure 5: Ratios of Applicants, Entrants and Places by Institution Type (1998-2003)

Retention and Drop-Out Rates:

Because the length of study varies from 2.5 years to 5 years, it is only possible to estimate the retention rate for the 1998 and 1999 Entry Cohorts. Overall analysis suggests that 68% of the 1998 entrants and 73% of the 1999 entrants graduated - with retention rates for male students being about five percentage points higher than those for female students. Whilst retention rates for 1998 Higher Diploma entrants appear higher than for other types of qualification, no differences between certificate type are detected for 1999 entrants. The numbers of entrants to military and private institutions in those years were too low for reliable analysis, but the retention rates for MOH and MOHE institutions were similar to each other for both entry cohorts.

Employment after Graduation:

Figure 6 shows the total number of graduates and the total number employed immediately after graduation from all Saudi nursing institutions for each year 1998 to 2003. It is noted that the number of the graduates in 2000 dropped dramatically, because the length of the study in Diploma courses was extended from two-years to two-and-half years starting with the 1998 entry, thus affecting the number of graduates in 2000. Overall, the percentage of graduates employed immediately has fallen from over 99% in 1998 to a low of 80% in 2002, rising to

86% in 2003. However, a rather different picture emerges when examining the 1998 and 1999 Entry Cohorts. Estimates suggest that 89.8% of the graduates from the 1998 entry cohort were employed immediately and 93.5% of the 1999 entry cohort.

In all years except 2003 a higher percentage of male than female graduates were employed immediately after graduation.

Figure 7 shows the percentage of graduates who were employed immediately after graduation by type of qualification and gender. It can be seen that the percentage of BSN graduates, who are all female, employed immediately was lower in all years than for the Diploma or Higher Diploma graduates. For the Higher Diploma, all graduates, male and female, were employed immediately for the years 1998 to 2001. After that the overall immediate employment percentage dropped to around 90%, and for those two years, the male percentage employment rate was over ten percentage points below that for female graduates. All Diploma graduates in 1998 and 1999 were employed immediately. In the years following 2000 (which had no graduates) the percentage employment rate for Diploma graduates overall was between five and eight percentage points below that of Higher Diploma graduates. However, there is a mixed pattern of employment rates for male and female Diploma graduates in those years.

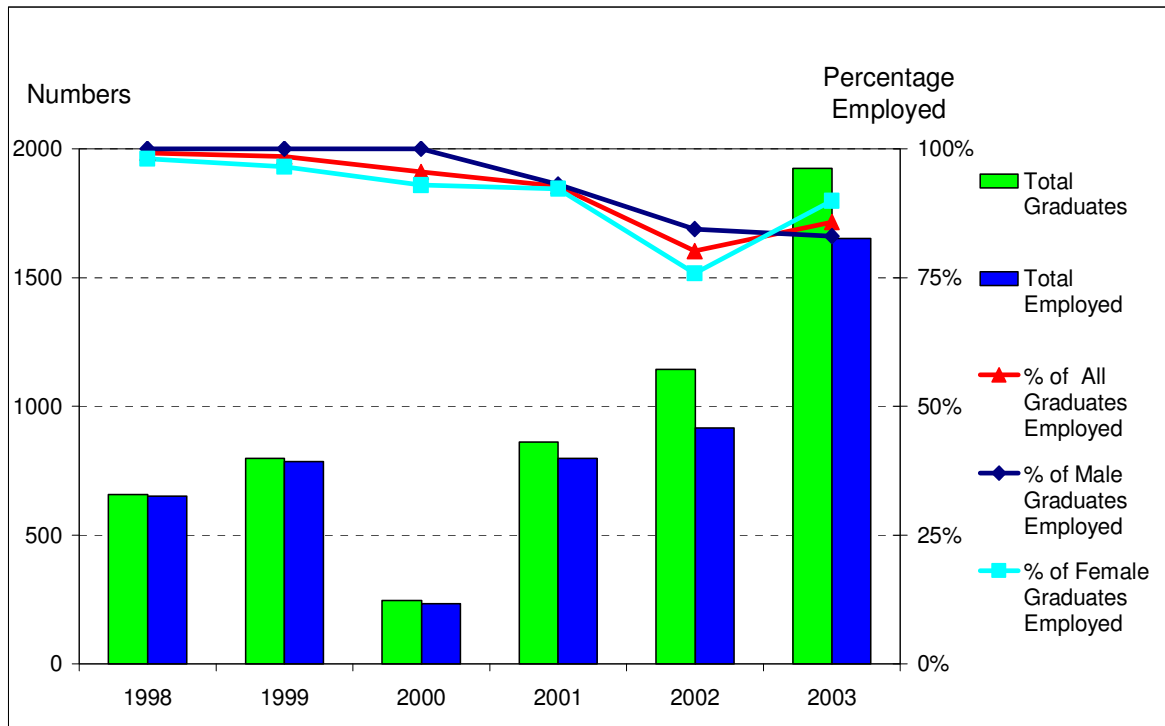


Figure 6: Graduates and Employed Graduates by Year of Graduation (1998-2003)

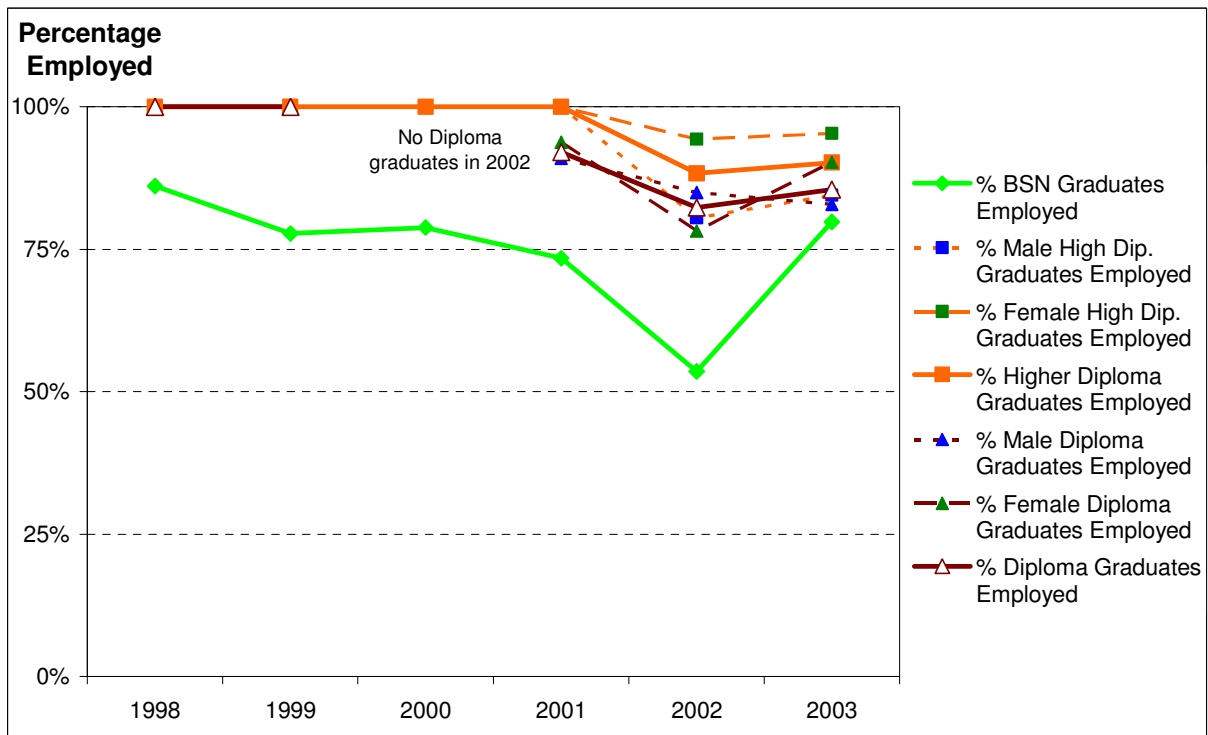


Figure 7: Percent Graduates Employed Immediately by Year of Graduation (1998-2003) by Qualification Type and Gender

It is difficult to compare immediate employment rates by type of institution as there were no or too few graduates from military and private institutions for those years to produce meaningful estimates. Since, for those years, all BSN graduates had studied in Ministry of Higher Education institutions, the percentage employment pattern is identical to that of BSN Graduates shown in Figure 9. The immediate employment percentages for Ministry of Health institutions reflect the pattern for Diploma and Higher Diploma, also shown in Figure 7.

Regional Patterns in Provision, Graduation and Employment:

The results reported above apply to the whole of the KSA. Figure 8 summarises that information for the years 1998-2003 combined, by Region, comparing the percentage shares with the percentage of the Saudi population aged between 17 and 25 years old (the age group most likely to consider entering nursing) in each Region. As can be seen,

there are considerable regional variations in provision. In particular, the Northern Region has a higher proportion of applications, places, entrants and graduates than its share of the Saudi population aged 17-25 years, while the Southern Region has lower provision than its share of the 17-25 year-old population. However, once students have entered nursing institutions, there appears to be little difference between regions in the retention and employment rates, but it must be noted that the entrants and graduates are from different cohorts.

Analysis by Region of the 1998 and 1998 Entry Cohorts, only, suggests that a significantly higher percentage (76.5%, $p < 0.001$) of 1998 & 1999 entrants to institutions in the Middle Region graduated than overall (70.7%) or than any other Region, which all had graduation rates of 69% or lower. Immediate employment rates on Graduation for those entry cohorts combined ranged from 89.3% in the Eastern Region to 95.4% in the Northern Region.

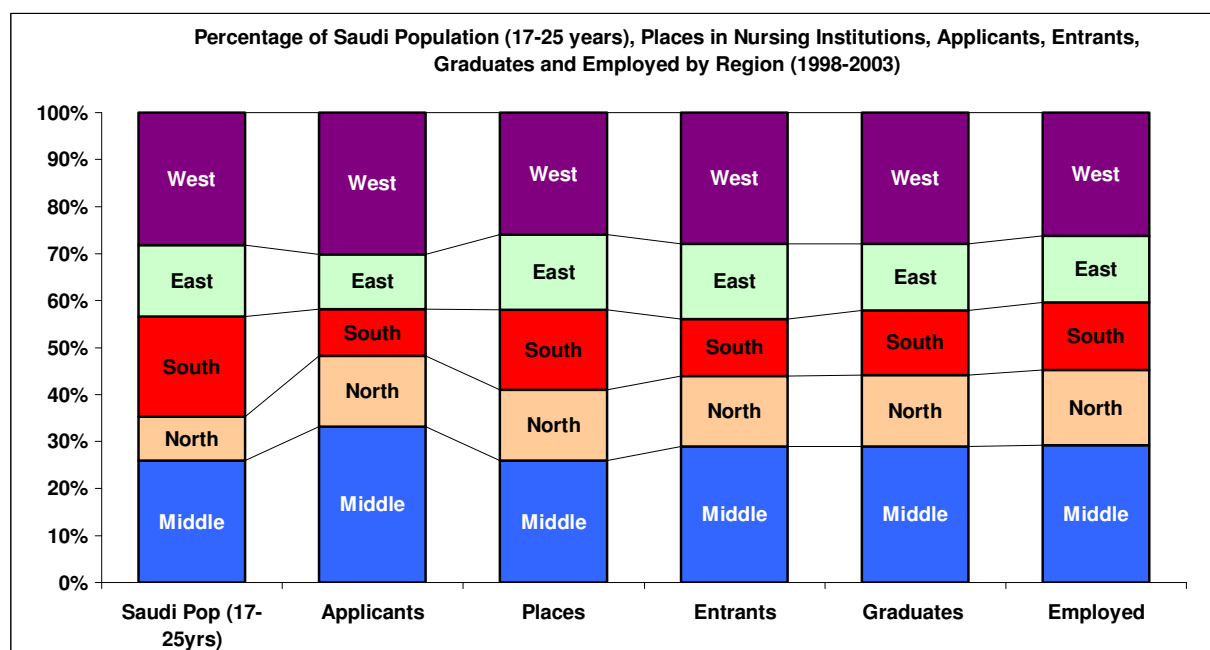


Figure 8: Regional Distribution of Provision and Population

4. Discussion

There is a substantial literature about the image of nursing and the socio-cultural and religious factors contributing to the shortage of Saudi nurses. In addition, many families and students in the Kingdom of Saudi Arabia, as well as in other Islamic societies, confuse religion with culture, considering that nursing, undressing and bathing members of the opposite sex or working with colleagues of the opposite sex would not be acceptable in Islam,

despite the fact that, historically, nursing is very well appreciated, recommended and considered as an appropriate profession for women in Islam. However, little attention had been paid to the internal supply of Saudi nurses, to the provision of training, and whether this is sufficient to achieve Saudisation and whether there are sufficient qualified applicants.

This study indicated that there has been a vast increase (from 100 in 1967 to nearly 6000 by 2005) in the estimated number of places available to first-

year students in Saudi nursing institutions. However, only if all these places were filled and the retention rate during study reached 100% could the target of the Saudi Fifth development Plan (1990-1995) of training 5880 nurses annually be achieved. In addition, the fact that the vast majority (over 75%) of places are at Diploma level (2.5 year programme), which is out of line with international recommendations and practice, could make it difficult to replace the better-qualified expatriate nurses with suitably qualified Saudis.

Although nursing is regarded as a female profession globally, it is interesting to note there is an almost equal ratio (50:50) of places for males and females in Saudi Arabia. This ratio might suggest a deliberate policy from the government to support the cultural need to have male nurses to nurse male patients. However, while women can provide nursing care to both men and women and to children, male nurses are generally assigned only to male patients. This means that the scheduling of staff can prove to be challenging if the patient census consists of more women and paediatrics than men, and too many male nurses are on duty.

The number of applicants exceeded the number of places for all types of institutions, which suggests that interest in and acceptance of the nursing profession among Saudi students has increased. However, this positive picture of more applicants than places is countered by the fact that in recent years there have been fewer entrants than places available overall, although it is possible that the number of places has been overestimated, especially in the earlier years covered by this study. Nevertheless, these figures make it difficult to detect whether well-qualified applicants are being turned away.

However, the vast expansion of provision of nurse training by the private sector in recent years does suggest unmet demand for places – especially as fees are charged for those places. However, at the same time, it is observed that no new institutions at all were established by the MOH between 1999 and 2003. The large proportion of places, especially new places, supplied by the private sector could be as a result of the fact that that privatisation is currently encouraged in all sectors. However, it is not clear whether the implications of this scale of private-sector provision for Saudisation have been fully considered. At the same time, the lack of new public-sector places would appear surprising given the pressure to achieve Saudisation of the nursing profession.

Despite the fact that there is an overall 50:50 split between males and females in the provision of places, there are some unexplained imbalances by

sector. For example, almost half (44.6%) of all first-year places for males are provided by the private sector, compared to about one-sixth (16.4%) of the places for females. Even more striking is that none of the six institutions in the Kingdom that offered BSN programmes admitted males and also males have fewer Higher Diploma places, which leaves male students with a lower level of nursing education. The increasing private sector provision adds to the pattern of lower level educational opportunities for male nurses by offering only Diploma programmes to males. Further, whilst the additional provision appears to suggest that there is considerable interest among Saudi males in studying nursing, at the same time confining male students to lower levels of education and preventing them from studying for a BSN, appears to be inconsistent with the fact that male nurses tend to move into management which should require higher levels of education.

Although the estimated graduation rate of about 71% for the 1998 and 1999 entry cohorts to Saudi nurse training is somewhat lower than international figures, which range from around 75% to 80%, it does not suggest that KSA has a major problem of dropout. Nevertheless, reasons for dropout are worth further investigation, including study of the reasons for the significantly higher estimated retention rate observed in the Middle Region. Further, as suggested above, the dropout rate means that, even if all places were filled, the numbers of graduates would fall short of the target of 5880 annually.

Most graduates enter employment immediately. One major reason is that the MOH and Military sector require entrants to sign a contract to work for that sector for the same period as the period of study, which might account for the 100% immediate employment rates observed for Diploma and Higher Diploma graduates prior to 2001. The reasons for the lower immediate employment rate for BSN graduates requires further examination, but it might be due in part to those graduates proceeding immediately to further study or joining academic institutions as demonstrators. Anecdotally it was observed that some BSN graduates feel it is not worth working as nurses with low salaries for hard work when they could get more by working elsewhere, for example in Banks, with higher salaries, shorter working hours and less responsibility.

No consistent differences in immediate employment rates were detected between male and female Diploma and Higher Diploma graduates. Thus the overall lower immediate employment rate for female graduates compared to male graduates (in all years except 2003) appears to result entirely from the fact that all BSN graduates, with their lower immediate employment rate, are female

There is considerable disparity between regions in applicants and provision in relation to population share. There are also wide disparities in distribution by certificate type, with only the Eastern, Western and Middle Regions having any BSN programmes. As the other two regions do not offer BSN places, this might cause a transfer of many students from the Southern and Northern regions to the other three regions to seek the higher level of education which is not offered in their regions. Moreover, there appear to be wide regional variations in provision for males and females and in provision by the private sector. Although characteristics of the different regions and migration to study might explain some of the observed differences, the wide variations in opportunities for potential applicants and entrants to the nursing profession could result in regional disparities in the nursing workforce and have an adverse effect on Saudisation.

5. Conclusions

Despite the substantial literature about the image of nursing and the socio-cultural and religious factors contributing to the shortage of Saudi nurses, little attention has been paid to factors influencing the internal training supply of Saudi nurses – hence the focus of this study.

Whilst a vast increase in the supply of training places was observed, it should be noted that, even if all the current places were filled, this would only result in the number of new entrants to nursing required to achieve Saudisation if there were no dropouts and if all graduates joined nursing. Given those conditions are unlikely, it is concluded from this study that there is a case for far more nurse-training places.

It is also concluded that planning needs to focus on factors such as the regional distribution of institutions, gender-balance and the relative provision of the different types of qualification, and relating these to the needs of the Saudi health service. In addition, the implications of the increasing private-sector provision of training need to be considered. However, whilst such planning would appear essential to achieve Saudisation of the nursing profession, it is likely to prove difficult in the absence of central data collection on places, applicants, entrants, graduates. Finally, despite the fact that applications exceed places, there are fewer entrants than places. It is difficult to determine how many qualified applicants there really are and thus to conclude how strong demand for places is.

6. Recommendations

From this study, a number strategies and potential solutions to increase the number of Saudi nationals in the nursing profession, in order to meet the objectives of Saudisation, are recommended.

They include establishing a centre or a body for data collection which routinely gathers and updates the information about the number of nursing applicants, places in nursing institutions, graduates and entrants to the workforce after graduation. In addition, a planning centre or nursing association should plan the number of students and graduates needed each year, overall and by region, gender, and type of qualification. In particular it is recommended that more bridging programmes be offered to upgrade qualification levels and that consideration be given to upgrading all nursing education to “BSN”.

Not only should consideration be given to increasing the number of nurse training places in total, but is it recommended that planners analyse whether the current 50:50 gender split in provision will meet the requirements for Saudisation. Further, if the private sector is to continue to play a major part in the provision of nurse education, it is recommended that special attention is paid to the implications, including proper planning and management, in order to achieve Saudisation.

Finally, it is recommended that attention be given to publicising and making the nursing profession more attractive. For example, salaries for Saudi nursing staff should be increased. A nursing admissions service should be established which provides high school leavers with the information they need about nursing and job guarantees should be offered to nursing graduates.

Corresponding author

Dr. Sana Al-Mahmoud, P.O Box 40168- Al-Khobar – 31952, Saudi Arabia – Eastern Province-
Email: sana98saudi@yahoo.com
Tel: + 966 550505521

References

1. Al-Hamadi A., 1999. The need for Medical Assistance and Nurses More than Doctors, *Al-Sharq Sunday*, 12 (4021): 2.
2. Alashqar S., 1990. For A White Bird from My Country. *Al Riyadh Newspaper*, 7920: 7-8. (In Arabic)
3. Alawi H, Mujahid G. ,1982. Skilled Health Manpower Requirements for the Kingdom of Saudi Arabia. King Saud University Press: Riyadh: Saudi Arabia
4. AlMunajjed M. ,1997 .Women in Saudi Arabia Today. Macmillan: London

5. Alnimir S. ,1988. *A Research Study on a Sample of Working Women in Riyadh Region*. King Saud University: Riyadh, Saudi Arabia, (In Arabic).
6. Al-Omar B., 2003. Knowledge, Attitudes and Intention of High School Students Towards the Nursing Profession in Riyadh City, Saudi Arabia. *Saudi Med J*, 25(2): 150-155.
7. Al-Osaimy M. ,1994. Nursing in Saudi Arabia. King Fahd Hospital: Jeddah
8. Ayoub M.,1988. Hospital Based Nursing Schools as Another Alternative in the Kingdom of Saudi Arabia. Paper Presented at a Manpower Symposium held on 12.11.1988, Riyadh. Saudi Arabia
9. El-Sanabary N., 1993. The Education and Contribution of Women Health Care Professionals in Saudi Arabia: The Case of Nursing. *Soc Sci Med.*, 37(11): 1331-1343.
10. Hamdi O. AlHaidar A. 1996. Factors Affecting Saudi Women in Enrolment in Nursing. King Fahad National Library Publication: Riyadh. Saudi Arabia (In Arabic)
11. Mansour A. ,1994. Continuing Education in Saudi Arabia: The Missed Sonata. *J Contin Educ Nurs.* 25(2): 90-92
12. Miller-Rosser K. Chapman Y. Francis K., 2006. Historical, Cultural, and Contemporary Influences on the Status of Women in Nursing in Saudi Arabia, *J Issues Nurs.* 11(3).
13. Ministry of Health. ,1997. Annual Health Report 1417/1418H. MOH: Riyadh, Saudi Arabia.
14. Ministry of Health., 2005. Annual Health Report 1425/1426H. General Statistical Department, MOH: Riyadh, Saudi Arabia.
15. Phillips A. ,1989. BSN Education in Saudi Arabia. *Nurs Outlook*, 37 (3): 116-119
16. Rehem M.,1986. A Survey of the Attitudes of Saudi Men and Women Towards Saudi Female Participation in Saudi Arabia Development. Microfilms. International: Ann Arbor: Michigan, USA.
17. SCFHS. ,2006. Nursing Situation in Saudi Arabia and BSN Education in Saudi Arabia, Saudi Council for Health Specialties: Riyadh, Saudi Arabia.
18. Specialised National Councils. 2005. Manpower in Nursing Profession, SNC: Cairo, Egypt, 2-28 (Unpublished, In Arabic)
19. Tumulty G., 2001. Professional development of nursing in Saudi Arabia. *J Nurs Scholarsh*, 33(3): 285 – 290.