Table II. Numbers of BTFs given to infants receiving placebo or erythropoietin (high risk = weight gain < 7.5g/day by study entry or haematocrit ≤ 50% within 48 hours of birth)

<table>
<thead>
<tr>
<th></th>
<th>High risk for BTF</th>
<th>Low risk for BTF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total transfusions</td>
<td>21 (17)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Number not transfused</td>
<td>(2)</td>
<td>(15)</td>
</tr>
<tr>
<td>Erythropoietin group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total transfusions</td>
<td>4 (3)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Number not transfused</td>
<td>(22)</td>
<td>(12)</td>
</tr>
</tbody>
</table>

Figures in brackets indicate the number of patients in each category.

Discussion

Review of our study data indicates that infants likely to need intervention for anaemia of prematurity can be identified. Early weight gain (i.e. from birth to study entry at a mean age of 28 days) probably reflects illness severity as well as adequacy of protein and caloric intake, factors which have been shown to affect erythropoiesis in preterm infants. The time to establish full oral feeds may also be increased in the sicker infants. A close correlation exists between phlebotomy losses and subsequent BTF. In the present study, total phlebotomy losses from birth to completion of the trial were associated with BTF (P = 0.04; results not shown). However, the amounts of blood taken prior to study entry were not. Our relatively conservative approach to blood sampling may have been responsible for the observation that birth weight was not related to the need for BTF; other workers have found higher phlebotomy losses and hence greater BTF requirements in smaller babies.

Our results also show that rhHuEpo is effective in infants at higher risk for BTF. Use of rhHuEpo does not appear to be associated with any significant side-effects. Likely benefits include a lower risk of transmitting infection (HIV, hepatitis, CMV). Furthermore, endogenous erythropoietin production is not suppressed (as occurs after BTF); this may be important in reducing the need for multiple BTFs.

As the costs of the two treatments are similar, the lower risk of transmitting infection favours the use of rhHuEpo in preterm infants likely to require BTF.

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Is registrarship a different experience for women?

Haroon Saloojee, Alan D. Rothberg

Objective. To determine differences between male and female registrars in their subjective perceptions and experience of a paediatrics registrar training programme.


Setting. University-affiliated teaching hospitals.

Participants. Thirty-nine paediatrics registrars.

Results. Of the 39 respondents, 18 (46%) were women. Men were older than women (30.4 v. 29.1 years, P = 0.049). There were no gender differences in the number of hours worked per week (65.7 v. 67.8 hours, P = 0.384) or participation in the training programme. Success rates in postgraduate paediatrics examinations were also similar for the two groups (85% v. 76%, P = 0.486). Male registrars were more likely to have 'moonlighted' (43% v. 6%, P = 0.011). Fifty-nine per cent of female registrars believed that they had been disadvantaged in their careers because of their gender, 28% felt that more was expected of a woman registrar and 22% of the female trainees claimed to have been subjected to sexual harassment. The majority (82%) of women registrars contemplated taking time off from practising clinical paediatrics in the future (post-registrarship), mainly for child-bearing purposes. Female respondents critised both the academic department and the hospital authorities for discriminatory practices, such as the awarding of home loans to men and women who were breadwinners only. The findings suggest that women registrars do feel disadvantaged and discriminated against, and highlight the need for flexible, creative programmes that recognise the needs and aspirations of female registrars and, indeed, all women in academic medicine.


For young women in particular, the demands of registrarship are in conflict with many other demands of life, e.g. time needed to develop a relationship with a partner, the age limits of fertility, time needed to have a baby and for child-rearing. While these conflicts are not new for working women, the increasing number of female registrars, especially in paediatrics, increases their prominence.
Women now constitute over 35% of medical graduates from some South African universities. Increasing numbers of women proceed to specialist training, and 30% of registrars registered for the Master of Medicine (M.Med.) degree at the University of the Witwatersrand in 1993 were women (Table I).

Table I. Registrations* for the M.Med degree at the University of the Witwatersrand in 1993

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Total No.</th>
<th>Women registrars No. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paediatrics</td>
<td>53</td>
<td>28 53</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>44</td>
<td>23 52</td>
</tr>
<tr>
<td>Radiation therapy</td>
<td>10</td>
<td>4 40</td>
</tr>
<tr>
<td>Community health</td>
<td>16</td>
<td>6 37</td>
</tr>
<tr>
<td>Obstetrics and gynaecology</td>
<td>35</td>
<td>12 34</td>
</tr>
<tr>
<td>Family medicine (M.Fam.Med.)</td>
<td>67</td>
<td>22 33</td>
</tr>
<tr>
<td>Anaesthetics</td>
<td>81</td>
<td>20 25</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>101</td>
<td>24 24</td>
</tr>
<tr>
<td>Diagnostic radiology</td>
<td>54</td>
<td>13 24</td>
</tr>
<tr>
<td>General surgery</td>
<td>39</td>
<td>3 8</td>
</tr>
<tr>
<td>Surgical specialties</td>
<td>82</td>
<td>4 5</td>
</tr>
</tbody>
</table>

* M.Med. registrations include students who have completed their registrarship but have not fulfilled all requirements for graduation.

The admission of women to registrar training programmes has given rise to special challenges and problems. These may easily be ignored or their importance may be belittled by co-ordinators of training programmes intent on treating all trainees in the same (old-fashioned) way. Issues such as subtle sexism, pregnancy, maternity leave, home/career conflicts, standards of professional demeanour and sexual harassment all assume particular importance for female trainees.

This study sought to identify differences between male and female registrars in their subjective perceptions of the training programme and their experiences of paediatrics registrarship. It explored how trainees combined their personal and professional lives and the special difficulties of women registrars. We aimed to make appropriate changes at our institution if problems were identified. We also believed that data on the difficulties and grievances of local female trainees could prompt hospital authorities and training co-ordinators at other centres to direct more attention to the concerns of women in academic medicine.

Method

At the time of the survey (December 1991) there were 43 paediatrics registrars in the training programme of the Department of Paediatrics and Child Health, University of the Witwatersrand. Confidential, anonymous questionnaires were distributed to 40 registrars. (Three registrars, 2 men and a woman, were away on leave.) Completed questionnaires were returned to a collection box in plain, sealed envelopes.

The survey comprised 186 questions and included demographic information, questions about perceptions of the training programme, work experiences, professional and personal attitudes, the respondents' financial, family and social situations, and the stress of registrarship. There was a separate section for women, where issues like sexual harassment were examined. Open-ended, partially closed and closed questions were used, as were Likert-type scales that were constructed by the researchers in most instances. Statistical analysis was performed by the Institute of Biostatistics of the Medical Research Council. Responses were analysed using the SAS2 and BMDP3 computer software packages.23 Chi-square analyses, Fisher's exact tests1 and t-tests were used when appropriate. A P-value of < 0.05 was considered significant.

Permission to perform the study was obtained from the University of the Witwatersrand Committee for Research on Human Subjects.

Results

Thirty-nine of the 40 questionnaires were returned — a response rate of 97.5%. The one non-responder was an unmarried male registrar. Women comprised 46% of the sample. Demographic details of the respondents are summarised in Table II.

Table II. Demographic details of paediatrics registrars

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Male No. %</th>
<th>Female No. %</th>
<th>Total No. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>10 48</td>
<td>9 50</td>
<td>19 49</td>
</tr>
<tr>
<td>Married</td>
<td>10 48</td>
<td>9 50</td>
<td>19 49</td>
</tr>
<tr>
<td>Divorced</td>
<td>1 5</td>
<td>0 0</td>
<td>1 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Male No. %</th>
<th>Female No. %</th>
<th>Total No. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>12 57</td>
<td>14 78</td>
<td>26 67</td>
</tr>
<tr>
<td>Black</td>
<td>4 19</td>
<td>3 17</td>
<td>7 18</td>
</tr>
<tr>
<td>Other</td>
<td>5 24</td>
<td>1 6</td>
<td>6 15</td>
</tr>
</tbody>
</table>

The mean age of all respondents was 29.7 ± 2.0 years (range 27 - 37 years). Men were significantly older than women (30.4 v. 29.1 years, P = 0.049).

There were no gender differences in the estimated number of hours worked per week (65.7 v. 67.8 hours, P = 0.384), the estimated percentage of time spent on patient care (75% v. 76%) or participation in the training programme, i.e. attendance at meetings, ward rounds, conferences, etc. However, significantly more women rated the training programme as poor with regard to their being prepared for a future career (33% v. 5%, P = 0.038). There was no difference between the two groups in their anticipated future career orientation, i.e. academic or private practice.

Success rates in postgraduate paediatrics examinations, viz. the Diploma in Child Health (100% success for both groups) and the Fellowship of the College of Physicians paediatrics examinations did not differ for male and female respondents (part I 86% v. 71%, P = 0.648) and part II (66% for both groups).

Ten of the respondents (28%) had engaged in 'moonlighting' during registrarship. Significantly more moonlighters were men (90% v. 10%, P = 0.011). The majority of moonlighters undertook it for financial reasons. However, there was no difference in the debt status of male and female registrars. (Mean outstanding undergraduate
Women generally rated working relationships with colleagues and other hospital staff more poorly; this only achieved statistical significance when their relationship with senior house officers (SHOs) was considered. Fifteen of the 21 men believed their relationship with SHOs to be good to excellent, while only 6 of the 18 women felt the same way ($P = 0.040$). Male registrars generally viewed their relationship with consultants to be better, although this was not statistically significant ($P = 0.077$).

The majority of female registrars (59%) felt that they had been disadvantaged in their careers because of their gender, while 14% considered their gender an advantage. Reasons offered by the 10 respondents who felt disadvantaged included, ‘not taken seriously by nursing staff/colleagues’, ‘two careers, i.e. as doctor and as wife/home-maker’, ‘made to feel guilty when pregnant’ and ‘no housing subsidy once married’.

In response to a structured question on the subject, almost one-third of female respondents believed that they were not taken as seriously as their male colleagues and that more was expected from female registrars. The majority of female registrars (71%) believed that the department actively discouraged them from becoming pregnant.

Four of the 18 female registrars (22%) claimed to have been subjected to sexual harassment while at medical school and the same number had experienced harassment during their postgraduate careers. The status of the harasser(s) was not requested.

There were equal numbers of single and married registrars in the sample, with no difference in their age or gender distribution. Single women more often had a regular partner compared with their single male counterparts (66% v. 10%, $P = 0.020$).

All 5 respondents who considered their marital status disadvantageous to their careers were women, 4 of whom were married.

Housework was primarily the responsibility of a hired helper in the homes of 8 married registrars, spouses in 7 instances (6 were wives of male registrars) and for 4 registrars, they themselves. The latter were all women, which confirmed the ‘role strain’ often imposed on this subgroup.

Married female registrars face the added dilemma of having to decide whether to delay child-bearing for the sake of their career. ‘Career is a priority’ was the single reason 90% of married respondents were childless. Eight of the 9 respondents who had chosen this option were women ($P = 0.019$). While 6 of the 8 married male registrars had their wives care for their children, both women with children placed them in the care of others (day-care centre or helper) while they worked.

More married men, compared with married women, indicated that their own careers, rather than that of their spouses, would take precedence in family decisions in respect of relocation (71% v. 13%, $P = 0.041$).

Most female registrars contemplated taking time off from practising clinical paediatrics in the future (post-registration). Eighty-seven per cent of women stated that it was likely/definite that they would take time off to have a baby, while 75% thought it likely/definite that they would interrupt their careers for child-rearing purposes. Twenty per cent of female respondents indicated that it was likely that they would take time off to consolidate their marriages. Overall, 82% of women registrars considered it likely that they would work part-time for a period.

**Discussion**

In the past 15 years, increasing numbers of South African women have chosen and been allowed to enter the medical profession.1 Career trends for women graduates of American medical schools indicate that more women than men enter the so-called primary care specialties of paediatrics, obstetrics and gynaecology, psychiatry, family practice and internal medicine.6 A similar pattern currently exists in the composition of registrar trainees in the different specialties at Wits (Table I). What has to be questioned is whether this distribution is a reflection of believed capabilities of women doctors and/or their acceptance in these specialties.

In this study, female registrars felt significantly more discriminated against. This was more often related to the employer’s conditions of service than to prejudicial practices within the academic department.

Examples of biased practices advanced by respondents included a particularly South African discriminatory process whereby women were not eligible for housing loans from the State unless they were the breadwinners in a family (this discriminatory practice has now been eliminated). Almost 30% of some 1 444 female South African doctors surveyed in 1990 by Brink et al.1 had experienced this, the commonest of all the discriminatory practices identified by this group. Twenty per cent of respondents in the same study had experienced attitudinal discrimination.

Surprisingly, none of the registrars in the present study complained about another distinctly South African discriminatory practice, viz. the joint taxation system.

The perception of one-third of female respondents that they were not taken as seriously as their male colleagues and that more was expected of them (e.g. commitment, effort) is one shared not only by female doctors in other areas of practice, but also by women in business, academic, managerial, legal and social circles.17 18

It is noteworthy that there was no difference in the number of female and male registrars who were married, unlike in other surveys, which suggest that female doctors are less likely to marry.16 17

Although pregnancy during registrarship is common and usually planned, most institutions are unprepared for pregnancy.18 Pregnancy during registrarship has its problems, including possible effects on maternal health, disruption of registrar schedules, displeasure of fellow registrars, a psychological toll on the pregnant registrar and, possibly, deleterious effects on registrar education.19

The perception of 71% of female registrars that the department actively discouraged them from becoming pregnant cannot easily be dispelled. The same question posed to 141 women who had completed their paediatrics residency at Stanford, USA, elicited the same response in less than one-quarter of subjects.20 In the present study, this perception appeared to be based on the emphasis placed...
during registrar selection interviews on female candidates' future child-bearing plans.

While difficult to condone, the department's attitude is perhaps understandable in the context of understaffing and a heavy service load. Given an increasing proportion of female registrars and a mandatory period of maternity leave, the implications of having several registrars with plans for parenthood during their training are obvious. Nevertheless, in the light of this survey, the Department of Paediatrics at the University of the Witwatersrand could benefit from a review and refinement of its position on pregnancy during registrarship.

Unfortunately, as documented in this survey, sexual harassment is still the bane of some female medical students' and doctors' lives. Several recent studies in the medical literature have examined the issue of sexual harassment. A large percentage of medical students (36 - 52%) report experiencing some form of sexual harassment during medical training.\(^{25-28}\) Komaromy et al. surveyed 82 residents and reported that 73% of the female residents considered themselves to have been sexually harassed during their training.\(^{29}\) More episodes occurred during medical school training than during residency. In all the studies, women report being harassed much more often than men.\(^{30-33}\) Among students and residents alike, such harassment creates a high level of stress.\(^{34-36}\) Interestingly, in a recent study fewer female respondents claimed to have been subjected to sexual harassment while at medical school and during their postgraduate careers than has been reported by the other researchers examining the issue.\(^{25-28}\)

Whether this reflected the respondents' concern about confidentiality or whether this practice occurred less often locally is uncertain. Whatever the true incidence, the reporting of all incidents must be encouraged. This should be followed by a full investigation and the censuring of offenders. The main goal of any programme dealing with sexual harassment should be the prevention thereof.\(^{29}\)

Over 80% of female registrars indicated their intention to work part-time for a period after qualifying, either to have a baby, for child-rearing purposes, or purely to consolidate their marriages. The implication of this statistic needs to be considered by all academic departments. While there is a mechanism for the creation of part-time posts (5/8 posts) and the South African Medical and Dental Council recognises part-time training, the logistic implications for academic departments have prevented the meaningful introduction of this option. However, if the obstacles can be overcome, some time spent by female registrars in part-time posts might strengthen and enhance experiences in lower-priority areas, e.g. research, service to special clinics and/or outpatient areas.

Whether women contribute to programmes differently and bring something special to medical practice are open questions. Many participants at an American paediatric education conference felt that they did. Women were generally thought to listen and counsel better, to be more practical and to have better "reality testing".\(^{37}\) Interestingly, in one study, the best predictors of men's clerkship grades were their cognitive characteristics, but non-cognitive characteristics contributed more to the prediction of women's subsequent performance.\(^{38}\) Certification examination data from specialty examinations in the USA show little difference between women and men.\(^{39-41}\) This was also true for this study sample.

How then can the concerns of women registrars best be addressed? Clearly, any intervention programme needs to extend its scope beyond just making adjustments to the registrar training programme. Academic departments need to devise mechanisms for providing adequate and consistent career planning and guidance for all students, registrars, and faculty—women as well as men. Adequate maternity (and possibly paternity) leave policies must be investigated. Innovative programmes that allow women to progress with their careers even though they choose to have children and family lives are needed. One such innovation, the shared registrarship option whereby two registrars share one post for a longer training period, is increasingly being offered by training programmes in the USA. While this system requires careful planning, it offers solutions to many problems, especially for female registrars with regard to the issues of pregnancy and child care. A recent survey showed a positive relationship between paediatrics programmes offering shared residencies and their ability to match through the National Resident Matching Program.\(^{42}\)

The recent modification of discriminatory practices such as the joint taxation system and the home loan policy has addressed the main grievance of women registrars. However, better facilities and benefits, such as day-care centres for the children of medical staff and posts and work schedules that attract skilled part-time staff, need to be established. Simultaneously, legislative support must come from specialist bodies, medical organisations and the South African Medical and Dental Council.

**Conclusion**

This study found few differences between male and female registrars in their perception of the training programme and their participation in it. However, many female registrars perceived the environment and conditions under which they were being trained as either discriminatory or unsympathetic to their needs. Undoubtedly, this prevents them from benefiting fully from the training programme, achieving their professional goals and reaching their true potential.

There is a need for all health professionals to examine their attitudes towards female colleagues and staff. They should strive to eliminate prejudicial attitudes that single out women and other minorities as being undesirable in academic circles. Academic departments, hospital authorities and professional medical bodies must involve themselves actively in the identification and elimination of discriminatory attitudes and practices. Furthermore, there is a great need for flexible, creative programmes that recognise the needs and aspirations of female registrars and, indeed, all doctors in academic medicine.

We are indebted to the University of the Witwatersrand Research Committee for funding the study, the Institute of Biostatistics, especially Ms Ursula Booyens, for assisting with the statistical analysis, Ms Jill Giraud for providing the M.Med. registration data, and the registrars of the Department of Paediatrics and Child Health at the University of the Witwatersrand for completing the questionnaires. This article is based in part on a dissertation submitted by Dr Saloojee for the degree of M.Sc. (Med.) at the University of the Witwatersrand.
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Limited private practice at academic hospitals — an 'in-house' group practice

R. P. Colborn, J. Kane-Berman, A. Hermann, J. P. de V. van Niekerk

The teaching and training of health care professionals in South Africa is at serious risk of declining standards. There are many reasons for this, but one important reality is that it has become increasingly difficult to attract and retain high-calibre academic staff. For many individuals the academic environment has become unattractive because of deteriorating local conditions, better career opportunities and living conditions overseas, and remuneration packages which compare very unfavourably with the private sector and the Western world. The State was unable to increase salaries sufficiently to retain key medical personnel and in 1991 the Cabinet therefore agreed to the introduction of limited private practice (LPP) in the public sector hospitals as an inducement. Has LPP achieved its objectives? How has it affected patient care, teaching and research? We report on the experience of the Academic Health Complex: Cape Town (AHCOT), which includes Groote Schuur Hospital and Red Cross War Memorial Children's Hospital.

Process and principles

The Cabinet agreed in principle to LPP in 1991 and authorised its introduction in August 1992. Between June 1991 and November 1992 the Faculty of Medicine of the University of Cape Town spent a considerable amount of time in gauging the opinion of Faculty members, examining systems elsewhere in the world and considering the advantages and disadvantages of LPP.

A working group developed a model which was debated and modified in the hospitals, Faculty, the University and the AHCOT Supervisory Board and ultimately accepted by all parties. Accounting and legal implications were determined, structures were developed and LPP commenced on 10 May 1993.

The following principles, which complied with guidelines prescribed by the cabinet and the Cape Provincial Administration, were accepted:

1. A preference for improved remuneration rather than the introduction of LPP was consistently expressed. It was,