The internship year in the RSA — a need for change

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Summary

A survey of all interns doing their compulsory internship year in the RSA during 1982 and 1983 was carried out by means of a questionnaire (978 interns responded, a response rate of about 85%). Various problem areas were identified, most notably long working hours, insufficient opportunities to practise required procedures, heavy clerical duties leaving little time for training, lack of formal training, and negative attitudes engendered towards the medical profession. The significance and impact of the internship year is evaluated and the way in which South African Medical and Dental Council regulations are applied is examined. Recommendations for improvements in the effectiveness of interns' training are made.

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The investigations were carried out by means of two specially constructed questionnaires, one to assess the circumstances and attitudes of the interns and one to assess the opinions of the chief medical superintendents responsible for interns at the various hospitals in the RSA. The questionnaires were distributed to the interns and chief superintendents during 1982 and 1983. Forty-eight hospitals were included in the study and these were divided into 10 training hospital institutions and 38 non-training hospitals for the purposes of the analysis of the intern responses. The 48 superintendents formed too small a group to subdivide and their responses were viewed as a whole.

In 1982 419 questionnaires were returned by the interns and in 1983 559 were returned. In 1983, 657 of the 807 students who had qualified at the end of the previous year did their internship in the RSA, implying that 152 had probably left the country to do their internships elsewhere. The 1983 response rate was 85%. The 1982 response could not be assessed accurately because no check was kept on the total number of questionnaires despatched. There is reason to believe that it was of the same order as that for 1983.

The two sets of questionnaire responses were combined before analysis because no significant differences could be found between the answers obtained for the two years. Non-respondent bias is not expected to have a major influence on the outcome of the survey since no significant contact occurred between the two groups of interns. The loss of information in 1982 was due to communication problems, and a selective stay-away of interns or superintendents representing a particular segment of opinion was considered very unlikely.

The questionnaire was divided into a number of areas of interest. Broadly, the areas were choice of combination of main and other clinical areas; general impressions of the internship year; task analysis; and special information regarding workload, hospital procedures, patient care, record-keeping, opportunities to carry out certain prescribed procedures, etc.

Results

Choice of combination of main and other clinical areas

Seven different subject combinations are approved by the SAMDC, demanding a maximum period of 4 or 6 months in at least one of four major subjects and a minimum period of 2 months in any of the other approved subjects. From the interns' responses it was clear that four combinations of subject choices were the most popular, namely a division of 4-4-4 months (28%), 6-4-2 months (26%), 4-2-2-2 months (20%) and 4-4-2-2 months (17%). The first and the last combinations were also indicated by the superintendents as the most suitable for their hospitals. Seventy per cent of the superintendents also indicated that they could not accommodate all seven combinations allowed by the SAMDC at their hospitals.

Internal medicine emerged as the subject of major interest (57%), followed by surgery (22%) and gynaecology and obstetrics (18%); paediatrics as a major subject is the preference of only 3% of interns, and a small number showed interest in pathology (2%) and community medicine (1%). In a substantial number of instances (12%) SAMDC regulations with regard to combinations of times allowed were deviated from. This happened to the same extent in training and non-training hospitals.

General impression of the intern year

Thirteen different general aspects of the internship year were presented to the interns to be assessed on a 5-point scale. For the purposes of the analysis, the responses were contracted into 'positive' and 'negative' responses. In response to two statements,
the interns reacted very negatively: 'The intern year maintained a good balance between opportunities for formal study, patient care and general administrative work', and 'I feel competent to join general practice'.

Task analysis
Interns were asked to estimate the percentages of time they spent on patient care, clerical tasks, and formal and informal learning opportunities. Both the interns and the superintendents were asked to indicate what percentages of time they regarded as ideal for these tasks. The interns and superintendents agreed surprisingly closely on the ideal times: about 60% on patient care, about 12% on clerical tasks, and about 14% on formal and 13% on informal learning opportunities. The reality as reported by the interns, especially those at teaching hospitals, was very different; in teaching hospitals 41% of interns' time was spent on patient care and 44% on clerical duties, while 6% was devoted to formal and 7% to informal study opportunities.

Special information on certain aspects of internship
The majority of interns (70%) preferred an orientation session plus a written guidebook as a way of receiving information regarding their duties and responsibilities. In practice, more than 50% either received announcements at a meeting or no instructions. The way in which interns were informed about emergency procedures for requesting seven kinds of hospital services was surprisingly poor. Verbal instructions or no instructions at all were given in more than half the cases. Interns at non-training hospitals fared better than those at training hospitals.

Approximately 50% of interns reported working an average of 10 hours per day and another 25% in the region of 12 hours per day. All in all, 92% reported working more than 8 hours per day. In addition, 2 or more turns at night duty were taken per week by 90% of the interns, and of these 90% had less than 4 hours' sleep a night during that time. This implies that the average working week of an intern is in the region of 65-70 hours. Over and above this, additional duty was done on weekends and public holidays. The interns at non-teaching hospitals seem to fare slightly better in this regard than those at teaching hospitals.

More than 80% of interns reported that too heavy a workload affected the quality of their work performance, and more than 70% of these felt that such a workload negatively affected their personal relationships. The majority of interns (>60%) also felt that their heavy workload was detrimental to their relationships with their colleagues, impaired their decision-making ability, and negatively affected their attitude towards the medical profession.

Supervision is regarded as a cornerstone of intern training by the SAMDC. However, 12% of interns at training hospitals and 15% at non-training hospitals indicated that they received little or no supervision. Sixty-five per cent indicated that they were supervised frequently (as opposed to 'always'), implying some periods without supervision. There was little difference in this regard between teaching and non-teaching hospitals.

While on duty in the casualty department, 23% of interns at training hospitals and 32% at non-training hospitals never had supervision, and a similar percentage had supervision only 'sometimes', indicating a serious infringement of regulations.

Experience in the administration of anaesthesia is considered an important part of intern training by the SAMDC. However, 15% of intern training hospitals and 15% at non-training hospitals indicated that they received little or no supervision during the administration of anaesthesia. Moreover, a substantial proportion (18%) at training hospitals and 12% at non-training hospitals indicated that they administered anaesthetics to fewer than the 40 cases prescribed by the SAMDC. Non-training hospitals again rated better than training hospitals in this area.

A large proportion of interns — 31% at teaching hospitals and 43% at non-teaching hospitals — carried responsibility for more than the 28 prescribed inpatient beds. Outpatient sessions were done more than 3 times per week by 13% of interns at teaching hospitals and 29% at non-teaching hospitals.

More than 3 operation sessions per week were the responsibility of 29% of the interns at teaching hospitals and 46% of interns at non-teaching hospitals. In addition, 14% of those at teaching hospitals and 25% of those at non-teaching hospitals performed emergency session services more than 3 times a week.

Minor procedures were not carried out to any considerable extent by the vast majority of interns. Urinary tract catheterizations, lumbar punctures and to a lesser extent biopsies were the exceptions, but spurtum, stool and even blood examinations were relatively infrequently done.

Interns frequently did not have opportunities to carry out minor operations. More opportunities for performing minor operations were reported at non-training hospitals. Application of plaster casts, drainage of abscesses and performance of dilation and curettage were the only procedures done relatively frequently. Little experience in appendectomy, tonsillectomy or hernia repair was reported. All these procedures are generally accepted as requiring practice before they can be carried out in independent medical practice.

Clinical information on patients was more consistently written up on blank sheets of paper at non-teaching hospitals (68%) than at teaching hospitals (42%), where printed guidelines on problem-oriented records were more frequently used. No less than 69% of interns in teaching hospitals and 58% in non-teaching hospitals received no feedback on clinical records. A large proportion of interns at both hospitals (48% at teaching hospitals and 47% at non-teaching hospitals) confirmed that their patient records were never reviewed. The vast majority of records are, therefore, produced by inexperienced interns on a blank sheet of paper with no further comments or corrections and therefore have little, if any, value for future reference.

The requirement to attend postmortem examinations was consistently complied with in only 5-6% of instances. Many interns never see an autopsy (38% at teaching hospitals, 44% at non-teaching hospitals).

Senior physicians were not available on a continuous basis in 10% of instances at teaching hospitals and 11% at non-teaching hospitals. Contact with a more senior member of staff was found to have instructional value by more than 80% of interns, but a not insignificant proportion of 15% did not find this so. This applies equally to teaching and non-teaching hospitals.

Intern participation in research is virtually non-existent in both training and non-training hospitals. More than 73% of interns did not have the opportunity to attend special clinics at teaching hospitals, while 47% did not do so at non-teaching hospitals.

A large proportion of the interns did not have sufficient opportunity to relax and rest (70% at teaching hospitals and 44% at non-teaching hospitals). Similarly, little opportunity for participation in sport was reported at teaching hospitals, but the situation was slightly better at non-teaching hospitals.

At teaching hospitals 20% of interns reported a negative impression of their training and 11% were of a similar opinion at non-teaching hospitals. The majority of interns chose the phrase 'interesting at times', while 20% at teaching hospitals and 11% at non-teaching hospitals chose 'so-so' or 'uninteresting — mainly routine'.

The interns were asked to rate on a 6-point scale their attitudes to their internship at the beginning of the year and at the time of the completion of the questionnaire (near the end of the year). Attitudes were allocated extreme scale points as follows: enthusiastic/unenthusiastic, positive/negative, full of expectation/disappointed, energetic/exhausted, and part of profession/not part of profession. Most interns started off enthusiastically and with high expectations, high energy levels, and a feeling of being part of a profession. These attitudes deteriorated consistently and markedly during the course of the year (Fig. 1).

Survey completed by hospital superintendents
Compliance with regulations
Seventy-two per cent of superintendents indicated that they could not comply with the SAMDC regulations relating to combinations of subject choices for interns. The most practical combinations from their point of view were the 4-4-1 (36%) and the 4-4-2-2 (30%) combinations. This was in line with views expressed by the interns.
constantly changing superintendents was of the opinion that the contribution of interns applied to the superintendents' views on opportunities for interns able. A large proportion of superintendents indicated that information was transferred by both a written guidebook and an orientation session, but according to the interns only 29% at teaching hospitals and 32% at non-teaching hospitals were actually informed in this way. Diverging opinion was observed in the superintendents' reports on how the interns were informed of their duties and obligations at the beginning of the internship year. The superintendents reported more informative and detailed methods of information transfer than the interns actually experienced. Fifty-three per cent of superintendents indicated that information was transferred for the first time in their lives, could cause psychological disturbances, suicidal tendencies and drug abuse have been recorded.5,6,8,11-13

Discussion

Internship is a stage in their education that doctors have strong feelings about and on which they hold many widely divergent opinions. Recently, heightened interest in the significance and impact of internship has resulted in a great increase in articles published on the subject in international journals.

Influence of internship on the individual

Time pressures, an excessive workload, sleep deprivation and uncertainty about their role in the hospital hierarchy are important stress factors in the lives of interns.1-10 These stress factors can adversely affect the quality of service and patient care rendered by interns, and also their ability to react rapidly and effectively in emergency situations, their ability to carry out clinical and surgical procedures, and their learning processes.

The psychological impact on interns is determined by, among others, their surroundings and the physiological consequences of long working hours and sleep deprivation, as well as their personal psychological make-up.3 Other stresses derive from competition for available posts, constantly changing working conditions and inadequate supervision or support from more senior colleagues.4 Even before internship, competition for available posts close to home (particularly for married students) and the responsibility of providing a medical service for the first time in their lives, could cause psychological problems.1,5,7,9,11-13

The entire undergraduate training period is one of intense competition. Courses are structured and clear criteria for achievement are laid down based on organized practicals and regular evaluation procedures. As interns these students are expected to plan their own training; they are exposed to clinical situations and must supply patient care. This sudden change is complicated by the fact that interns have no control over their work schedule. They are expected to work in a team, which creates problems when they are moved around to fulfil other service needs in the hospital. Interns often report feeling confused about their identity or position within the strict hierarchy of the hospital.

All of these factors have a relatively small influence on the intern's working life when compared with sleep deprivation.1,4,5,7,9,14,15

The nature of an intern's work demands sustained attention and a high level of work performance over a wide range of psychomotor activities with the preservation of psychological balance. Emotional and intellectual functions are known to be impaired by sleep deprivation, with a significant increase in errors of performance and an increase in reaction time.11-13 Even 10 hours of sleep after a deprivation period of 34 hours does not necessarily cancel all negative effects immediately and performance levels are in some cases still affected.15 One 'good rest', therefore, is not necessarily sufficient to restore the chronically sleep-deprived intern to normal functioning.16 Compensation for sleep deprivation was shown to be possible for short tasks (<3 minutes).17 Under these conditions the intern was more affected if he believed that the tasks to be undertaken were not very important, or did not require much insight.17 Insight, judgement and motivation are not well developed in a chronically exhausted intern!

In an extensive survey among 6 500 young hospital doctors in England, Scotland and Wales,18 the profound and destructive effects of long working hours on their personal and professional lives were reported. These effects involved unsatisfactory relationships with patients, nurses, colleagues, family and friends. Family in particular suffered severely, leaving the intern with strong feelings of guilt.

Apart from negative effects on psychomotor function, sleep deprivation has been shown to have consistent effects on psychological and emotional components of intern behaviour. Increases in depression, anxiety, chronic anger, sleep disturbances, suicidal tendencies and drug abuse have been recorded.15,17,19 Unfortunately no research has yet been done
on these problems in the RSA, but the magnitude of the problem reported overseas certainly warrants that the situation be investigated in depth.

Medical students undergo long, demanding training, and consequently social isolation is a very real problem for them. They do not easily establish and maintain mature and effective interpersonal communication skills and relationships. The internship year compounds this problem, and as a result interns can find it difficult to handle patient reactions to illness. Adequate family support is often lacking because of the intern’s protracted working hours. Interns often report difficulty in establishing friendships outside the hospital, and they begin to live a ‘cloistered’ life. Those who are married suffer additional stress. Interns experience difficulty in sharing their emotions, while they have little energy for strengthening personal ties or keeping up friendships. Although there is no exact information on the number of disrupted marriages among South African interns, the subject is mentioned so often by interns and other staff that it must be viewed as a potentially significant problem.

The abuse of chemical substances among medical students and interns is well known, but again figures for South Africa are lacking. Interns are particularly vulnerable to resorting to chemical aid in order to cope with a full schedule of endless routine care, as well as the lack of sleep. In this way, problems affecting a lifetime’s professional career can easily take root. The SAMDC increasingly has to deal with members of the medical profession who have become drug- or alcohol-dependent. Studies carried out overseas have confirmed an unusually high proportion of doctors, compared with the general population, who abuse alcohol or drugs. 6,9

Quality of medical care

The management errors related to patient care which could and do arise as a consequence of chronic sleep deprivation and overwork may (apart from dire consequences to patients) result in complex litigation suits. Students or interns, hospital personnel, and practitioners all have the temerity to ask for guidance. Therefore, it is important that any reappraisal of intern functions and responsibilities should take cognizance of the legal implications. Negative effects on patient care by overworked interns probably do occur, although little research is available to substantiate these findings. The provision of positive proof would have far-reaching implications, especially in an excessively litigious society such as the USA. 6,9

Attitudes

Unrealistic work schedules for interns may well affect the attitudes to and expectations they have of their future careers, and may set a similar work pattern for themselves as practising physicians, with deleterious effects on patient care, personal behaviour and lifestyle. Practitioners already cast in this mould and may set a similar work pattern for themselves as practising physicians. The interns are frequently not even found at ward rounds and meetings because they are occupied with routine matters or clinics. In one study consultants did rounds from 1 to 5 times per week at hours that suited their own programmes, but did not necessarily accommodate the interns. No uniform organized or structured programme of training exists locally for interns (as far as we are aware), probably because their appointments are not supervised by the universities. Interns, with very little say over their work schedule, have to acquire their skills and knowledge by ‘osmosis’. All aspects of intern training in South Africa should be investigated formally so that a more effective level of training can be ensured.

Research

A serious dearth of medically qualified researchers exists in this country and is also developing in other countries. The total exclusion of interns from any exposure to research or participation in research projects could have a bearing on this situation. Earlier contact with research may make it a more likely career choice. Some form of internship is practised world-wide, and interns need supervised experience before starting out on their own. Internship training cannot be abandoned without a suitable alternative. Hospital services have become too dependent on intern labour. The demands made on hospital economy by shortening the interns’ workday would be strongly resisted. At the same time no authoritative or scientific study is available to show that internship in its current form achieves its aims of increasing the young doctors’ skills and clinical judgement in any consistent way. Resistance to change also comes from within the medical profession, which regards internship as a type of initiation process (or ‘rite of passage’) to earn a place in a select and elite profession. Does the impact on the career, personal life, health and attitudes of the young doctor concerned, and the likely consequences regarding patient care, justify indulgence in the present form of initiation process?

Conclusion

The guidelines provided by the SAMDC for the compulsory internship year are to a significant extent not compiled with. Supervision in particular is inadequate and the large percentage of interns administering anaesthetics with little or no supervision is alarming. Interns are very poorly informed about what tasks, procedures and duties are expected of them. The lack of information on restrictions placed on prescriptions and on the availability of medicine after hours has serious impli-
cations. The interns’ patient records have little value owing to poor control and absence of feedback by supervisory staff. Opportunities for study are few, regular teaching is rare, and opportunities for attendance at clinical discussions and autopsies are variable and infrequent.

The total intern experience offers an explanation as to why these young doctors take on their new responsibilities with enthusiasm, but gradually become disillusioned and more negatively oriented towards their internship and their chosen profession. It is important to note that interns are on the whole better off at non-teaching hospitals, particularly with regard to duty schedules and learning opportunities, as well as with regard to supervision and the development of positive attitudes.

It is recommended that there should be an urgent and in-depth investigation of the implications of the internship year in its present form. Regulations should be revised as soon as possible and ways devised to enforce them. Control measures should be instituted with regard to learning and training so that some form of organized programme can be followed.

The appointment of an intern supervisor, one of the full-time academic staff of the teaching establishment, should be considered. The SAMDC could then exercise control measures through such a supervisor. The functions of such a person should be carefully considered, and could include such aspects as the co-ordination of intern activities, the implementation of SAMDC and hospital regulations, and the establishment of teaching programmes within the institution.

Universities, through their faculties of medicine, should be formally involved in internship training. In the long term, attention should be given to introducing a more formal and structured programme of vocational training which takes into consideration an integration of the 3-year period at present consisting of the student intern year, the intern year and the post-intern year.

Studies done in other countries point to a number of potential problems in intern training which warrant in-depth attention. The prevalence of substance abuse among interns, as well as the effects of sleep deprivation on their work, learning and development as doctors, warrant investigation.

The optimal structuring of learning opportunities and the best way to acquire insight and skills in various disciplines also need to be looked at. It is hoped that further studies will be directed towards these problem areas.

The assistance of staff members of the Bureau for Medical and Dental Education, University of Stellenbosch, the Institute for Biostatistics, the Institute for Biomedical Communication and the Publications Unit of the South African Medical Research Council is gratefully acknowledged.

A copy of the Report on the Training of Interns in the RSA can be obtained from the South African Medical Research Council. The report is available in both official languages.

REFERENCES