Selection Methods—Utility & Validity

by

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Of recent years, the problem of proper selection of students to medical colleges has aroused considerable concern among medical educators and health administrators ([1], [2]). This is particularly true in the Indian context. where variability in standards and diversity of school education is confounded with the availability of limited resources: these resources have to be utilized to the fullest extent with the least wastage, failure and under achievement.

Somehow the efforts of the admission committee in most of the colleges have been directed largely towards selection of candidates who will become academically successful during the medical course. These committees have been generally unconcerned with the actual needs and performances of their graduates in practice ([3]). The applicants are selected largely on the basis of previous scholastic records. This strategy of selecting applicants on these basis as predictors of medical college success has yielded disappointing results, as at most they predict only the early phase of medical education ([4],[5],[6]). A second strategy has involved the use of tests for personality, interest and motivation, as well as several other non-intellectual tests (values, attitudes, etc), as predictors of medical college performance. Here again, the results have not been very encouraging but certain promising relationships have been reported ([7],[8],[9]). It appears that psychological tests, when used in combination with selection criteria, do a more efficient job of predicting medical college success ([10])

The aim of medical education is to produce the best possible physicians and medical scientists to serve the society. The basic purpose of selection should be to choose, as far as possible, the kind of men and women who will be a success in the profession and who possess the right mixture of scientific knowledge and human qualities—compassionate, scientifically astute, selfless, dedicated, responsible, and with an urge to grow through self learning throughout the professional career. It is easier to train applicants with desirable personality traits that would go to make a good physician rather than those who have to be reshaped during their course. Admission committees have, therefore, not to restrict their selections only to the students with superior intellectual ability as reflected by their academic records in science and related subjects.

Keeping this in mind, St. John's Medical College is currently engaged in a longitudinal research project (since April 1968), with the support of I.C.M.R., to determine the utility and validity of selection methods in force at this college since 1963.

This research project mainly aims at:

i. Analysis of selection methods in predicting medical college success;

ii. Value of rating scales—self rating, peer rating and faculty rating, in assessing medical training course;

iii. Analysis of medical training wastage in terms of failures and personal problems;

iv. Analysis of selection methods, medical examination marks and rating scales in predicting professional success.

2. Materials and methods used:

i. *Subjects*: All the 260 students, admitted to St. John's Medical College during the years 1963-67, form the subjects of this study.

ii. *Predictive variables*: This study is mainly concerned with the value of the psychological tests in predicting academic success throughout the under-graduate medical college years. The predictive variables included:

A. Intelligence tests B. Personality tests and C. Group situation tests.

These tests were pretested and standardised. (Details of the psychological tests are given in U.G.C. financed Research Reports No. 64402 (1963), 64411 (1964), 65415 (1965), 67420 (1966), and 67425 (1967), entitled 'Psychological criteria for selection of medical students').

In addition to psychological tests, two other predictive variables, namely Pre-University examination marks and Entrance Examination marks, were used for comparative purposes.

iii. Criterion variables:

A. University examinations: Marks obtained by students at different stages of the M.B.,B.S. course have been taken as the criterion, since examination success or failure is regarded, for practical purposes, as the index of an individual's proficiency or deficiency. The seven criterion variables (first six are immediate criterion and the last one is intermediate criterion) are:

a) Pre-professional course (P.P.C.)
b) I M.B., B.S. Examination (I.M.B.)
c) II M.B., B.S. Part I Examination (II M.B-1)
d) II M.B., B.S. Part 2 Examination (II M.B-2)
e) II M.B., B.S. Part 3 Examination (II M.B-3)
f) III M.B., B.S. Examination (III M.B.)
g) M.B., B.S. Cumulative marks (M.B-cum)

B. Internal academic assessment. The gain in proficiency during the medical course is capable of being assessed not only with reference to examination marks, but also by considering day to day improvement in knowledge and insights. For this reason, *Achievement Tests* of the multiple choice type were constructed in preclinical, paraclinical and clinical subjects, and administered to students during the I M.B., II M.B., and III M.B. courses respectively.

C. For the assessment of medical skills, the following three criteria measures have been developed and used.

a) Self-rating scales, for I M.B.B.S. students (consists of 30 items), and for final M.B.B.S. students (consists of 70 items), were developed and used to study their attitudes and interests. The questionnaires, amongst other factors, covered the following areas:

(i) Personal and background information of medical students, (ii) medical course and the students' reaction to it (study habits, opportunities provided to develop medical skills, evaluation of course and achievement etc.), and (iii) career aims (future plans, doubts, career choice, etc.).

(b) Peer rating scale (P.R.S.) consisting of 36 items and covering areas like medical knowledge, medical skill and interpersonal relations, has been administered to the final M.B.B.S. students. The students were asked to assess the performance of their own classmates during the medical course.

(c) Faculty rating scales (F.R.S.) were used by faculty members to assess the progress of students. One of the F.R.S.—Behavioural Rating Scale (B.R.S.) consists of 40 items and covers traits such as practical common sense, clearness in grasping, verbal expression, critical thinking, ability to influence others, cooperativeness, emotional stability, self-confidence, steadiness of purpose, caution and vigilance, helpfulness, initiativeness, regularity, manual skills, etc. The other F.R.S.—(Evaluation of Students' Medical Achievement (E.S.M.A.)—consists of 26 items and covers areas like knowledge of medical information, ability to gain and maintain patient's confidence, skills in observation and clinical judgement, diagnostic ability, desire to learn and cooperate, etc. Each student is rated by three independent assessors before the scores are pooled.

TABLE 1

Validity Coefficients between Predictive and Criterion Measures (1963—67)

Criterion measures	Predictive variables					
University Exams during M. B. B. S. course	Psychological test scores				P. U. C.	Entrance Examination
	Intelligence	Personality	Group situation	Final scores		
P. P. C. (N = 259)	0.03 NS	0.12 NS	0.27**	0.22**	0.28**	0.22**
I M. B. (N = 244)	0.12 NS	0.09 NS	0.13 NS	0.23**	0.22**	0.24**
II M. B. -1 (N = 169)	0.03 NS	0.17*	0.26**	0.14 NS	0.14 NS	0.14 NS
II M. B. -2 (N = 164)	0.08 NS	0.11 NS	0.06 NS	0.21*	0.24**	0.22**
II M. B. -2 (N = 164)	0.22**	0.13 NS	0.05 NS	0.31**	0.16 NS	0.03 N
(II M. B. As a whole) (N = 168)	0.11 NS	0.06 NS	0.12 NS	0.24**	0.18 NS	0.11 NS
III M. B. (N = 104)	0.03 NS	0.09 NS	0.17 NS	0.27**	0.08 NS	0.06 NS
Cumulative (N = 121)	0.02 NS	0 03 NS	0.05 NS	0.29**	0.12 NS	0.13 NS

N. S. = Not significant

* = Significant at 0.05 level

** = Significant at 0.01 level

3. Results:

i. Significance of psychological tests in predicting medical college success.

Table I indicates that the predicative validity of psychological tests (final scores) is significantly high. Those who performed well in psychological tests at the time of selection turned out to be academically successful in the medical education, whereas those who performed badly on psychological tests but were admitted to the course turned out to be academically poor. As compared to the psychological tests, the validity coefficients of P.U.C. and Entrance Examination marks significantly low in predicting academic success. Out of seven correlation

coefficients tested in each of P.U.C. and Entrance Examination, only 3 are significant (with P.P.C., I M.B., and II M.B-2). These results thus reveal two important facts, viz., that PUC and Entrance Exam marks are (i) assessing the some common factors (like scholastic achievement), and (ii) at best predict academic achievement in earlier phases of medical course. Another important factor emerging from this table is that the final scores on Psychological tests do reveal a consistently high and statistically significant correlation with medical course examination marks, although the scores on individual tests do not show high correction (II).

The battery of tests, as originally designed for administration to students seeking admission to St. John's Medical College, was a 'three pronged' approach and included measures of intelligence, personality and social interaction. Different tests were accorded appropriate weightages in working out the final score, and the students were ranked and graded accordingly. In the light of *regression values* obtained for 1963, 1964, 1965, and 1966 batches, it appears justifiable to apply 'cut off' at 50% of the final score in the psychological tests. Candidates following below this level would be potentially unsuitable for the medical course.

Scores on Achievement Tests were correlated with P.U.C. Entrance Examination marks and Psychological tests scores in order to find out which of these three measures is the best predictor of the high level of achievement. The results are shown in Table 2.

Correction in respect of P.U.C. and Entrance Examination marks are not significant, whereas correlations of psychological tests scores with Achievement Tests are highly significant.

TABLE 2

Predictive Variables and Achievement tests in Preclinical, Paraclinical and Clinical Subjects in Medicine

Batch	Achievement Test	Predictive variables		
		PUC Marks	Entrance Exam marks	Psychological Test scores
1967	*Preclinical subjects* :			
N=53	Anatomy	-0.07	0.25	0.59**
	Physiology	0.06	-0.09	0.52**
	Biochemistry	0.08	0.17	0.57**
1966	*Paraclinical subjects* :			
N=38	Pathology & Microbiology	-0.04	-0.10	0.34 *
	Pharmacology	0.02	-0.01	0.41**
	Forensic Med.	0.08	0.06	0.27
1966	*Clinical subjects*			
N=33	Medicine.	0.06	-0.09	0.33
	Obst. & Gynaecol.	-0.08	-0.13	0.52**
	Prev. & Soc. Med.	0.08	-0.03	0. 3*
	Surgery	-0.01	0.11	0.40*

* = Significant at 0.05 level;

** = Significant at 0.01 level,

ii. Vaule of rating scales in assessing medical training course and attitudes of students towards Medical course.

A. Self rating scales :

The important findings are (a) students in the first year who took the decision to do the medical course because of personal interest had no doubts regarding medical career, whereas, those who took the medical course at the prompting of their parents or teachers expressed some doubts regarding the wisdom of their choice; (b) those who had developed regular study habits devoted more time to continuous study as compared to those who worked by fits and start; (c) with regard to teaching methods, the general drift of opinion was that practical classes, reading text books and demonstrations are of great value; (d) internal assessment is preferred to University examinations; (e) need for guidance was felt by the majority of students (f) they considered facilities for clinical work, practice of routine laboratory techniques, and observation to be sufficient, although they had very little clinical responsibility for the care of the patient; (g) they experienced no difficulty in establishing contact with patients in the hospital, but not in the home setting; (h) hospital practice was preferred to private practice; (i) with regard to areas of specialisation, the favourites were surgery and medicine whereas Dermatology and Pharmaceutical industry were least attractive; (j) more than 75% of the students intend to settle in India, but nearly half the respondents wished to go abroad for further studies (12, 13, 14).

B. Faculty and Peer ratings :

Scores on the two rating scales—B.R.S., and E.S.M.A., were correlated with M.B. cumulative marks. The correlation for the 1963, 1964, 1965 and 1966 batches, which have now completed the M.B.B.S. course are shown in the Table 3.

TABLE 3

Faculty and Peer Ratings Correlated with Medical Examination Cumulative Marks (1963 to 1966 Batches).

Batch	Peer Rating Scale	Behaviour Rating Scale	Medical Achievement Rating Scale	
1963	0.19 NS	0.54 **	0.67 **	NS = not significant
1964	0.04 NS	0.49 **	0.42 **	** = significant at
1965	0.23 NS	0.61 **	0.51 **	0.01 level
1966	0.34 NS	0.28 NS	0.63 **	

On B.R.S. and E.S.M.A. all values (except in B.R.S. with 1966 batch) are statistically significant at the 99% level confidence. This goes to show that faculty ratings are good predictors of examination success, and that they confirm the evaluations based on psychological tests administered at the time of admission. The Peer Rating Scale, used by students for making evaluations on one another, has not led to any conclusive findings, on account of wide difference in evaluation.

In order to assess the relationship between faculty ratings and students' ratings, correlations were worked out between the rating scales. The correlation between P.R S. and F.R.S. was not significant. Between the two ratings scales (B.R.S. and E.S.M.A.) used by faculty members, a significant correlation was established at levels varying between 0.75 and 0.80.

iii. Medical training wastage.

Regarding Medical training wastage, four aspects were studied (11, 15). (A) What are the rates of failures at different stages in medical education? (B) Is there any relationship between wastage in terms of failures and gradings based on psychological test scores, administered at the time of selection for the course? (6) What are the factors contributing to the medical training failure? (D) What is the value of selection procedures in predicting the 'Problem' students?

TABLE 4

A Medical Training wastage, Stage wise

Stages in medical education	Total no. of students	No of failures	Percentage of failure
P. P. C.	260	29	11.2
I. M. B.	260	61	23.5
II M. B.	200	63	31.5
III M. B.	150	84	56.0

It will be evident from the Table 4 that casualty rates are highest at the final M.B.B.S. stage. Of every 100 candidates admitted, 44 go through the M.B.B.S. course unscathed at any stage and the remaining 56 have to take the examination more than once at some stage or the other. Table 5 indicates the additional attempts taken by the failed candidates at each stage of the medical course.

TABLE 5

Stages in med. edn.	No. of failed candidates	Additional Attempts							
		One		two		three		four	
		No.	%	No.	%	No.	%	No.	%
P. P. C.	29	23	79.3	4	13.8	2	6.9	0	0
I M. B.	61	41	67.2	16	26.2	1	1.6	3	4.9
II M. B.	63	26	41.5	22	34.9	5	7.9	10	15.8
III M. B.	84	61	72.6	12	14.3	1	1.9	10	11.9

As is evident from the Table 5, 12 to 16% of the students took more than four attempts to pass II M.B. and III M.B. Examinations.

B. Medical training waste, gradewise on psychological tests.

Wastage in terms of failure rates during the medical course is shown in Table 6 against the various grades obtained by pooling the psychological tests scored at the time of admission.

TABLE 6

Gradings & score range	Total no. admitted	Failures	Percentage
I (60% & above)	37	14	37.8
II (50-59%)	145	68	42.8
III (40-49%)	69	33	47.8
IV (30-39%)	9	8	88.8
V (Below 30%)	nil	nil	nil

In case of those placed in the higher gradings (above 40%) the failure rate varied between 38 and 48%, whereas the failure rates in the case of those placed in lower gradings (below 40%) was as high as 89%. Further, discriminate analysis of psychological tests indicates that the lower gradings on intelligence tests were found among failed students at P.P.C. and preclinical stage, whereas lower gradings on personality and social interaction tests was found among failed students at paraclinical and clinical stages.

C. Factors contributing to medical training wastage

The following nine factors were identified after analysing data collected on psychological tests and specially designed questionnaire for the purpose.

a) Age: Older students show a much higher wastage than the younger students.

b) Sex: Men have higher attrition rate than women.

c) Socio-economic background of students is not a contributing factor.

d) Health: 20% of students showing irregular progress, reported health problems. Emotional difficulties were encountered more by unsuccessful students. It was not clear however whether these difficulties were the cause of the result of their lack of success.

e) Study habits did not have a consistent relationship to success or failure.

f) Inadequate intellectual capacity has contributed substantially towards wastage, particularly at P.P.C. and preclinical stages.

g) Personality: On Edwards Personal Preference Record failed candidates were found to be below the norms on achievement need and were less aggressive. On the other hand, they showed significantly more deference and a higher need for order.

h) Adjustment: On Bell's Inventory, failed candidates were inferior in general adjustment, particularly in emotional adjustment.

i) Interest and motivation: On self rating scale the failed candidates showed poor interest and lack of motivation in medicine.

D. Value of selection procedures in predicting problem students:

In a separate cross-sectional study, attempts were made to determine the value of selection procedures in predicting 'problem' as well as 'model' students (11). It was found that psychological tests, but not either P.U.C. or entrance examination marks, significantly predict these criterion measures. The 'problem' students usually labour under emotional stress, inferiority feelings, antisocial tendencies, with strong inclinations towards withdrawal. Further, academic performance is poor and they create difficulties for themselves inside and outside the college.

4. Findings

i. The predictive validity of psychological tests administered to candidates seeking admission to St. John's Medical College, Bangalore, is significantly high. As compared to the psychological tests, the P.U.C. and Entrance Examination marks have a poor predictive value.

ii. Scores of psychological tests correlated significantly with achievement test scores in preclinical, paraclinical and clinical subjects. This was not found to be so in the case of P.U.C. and Entrance Examination marks.

iii. The faculty ratings based on the Behavioural rating and the medical achievement rating scales have greater predictive validity. Peer ratings, on the other hand, did not correlate significantly.

iv. Medical training wastage rates are highest at the final M.B.B.S. stage and lower at the earlier stages. 89% of medical training wastage was found in students obtaining lower gradings (below 40%) on psychological tests, administered at the time of selection.

v. Main factors responsible for medical training wastage are (a) inadequate intellectual capacity (b) poor adjustment and (c) lack of interest and motivation.

5. Summary

The findings of follow-up of medical students admitted to St. John's Medical College, Bangalore indicates that the predictive validity of psychological tests is significantly high in

forecasting (i) academic success and (2) training wastage. Those who performed well in psychological tests at the time of selection turned out to be academically successful in the medical course, whereas those who performed badly in psychological tests but were admitted to the course, turned out to be academically poor. As compared to the psychological tests the validity of P.U.C. and Entrance Examination marks were significantly low in predicting academic success. It is an important finding and should be seriously taken into consideration since it is not infrequent that great weightage is given only to candidates' scholastic record at the time of admission to the medical course.

The results also bring forth the necessity of reliance not only on the university examinations, but emphasise the necessity of giving higher weightage to internal assessment and faculty rating of the candidates. It should, however, be pointed out that the present conclusions are applicable to medical course. It will be necessary to determine the role of these factors in predicting professional success in an objective and quantitative method, when the medical graduates enter upon career—the ultimate justification of this project.

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KEEPING TRACK------

Medical Education is a topic that would be very difficult to 'keep track' off since there is so much available literature in the field. However, for all those readers who are keen to know more about the new trends and experiments as well as the main issues of debate the following list would be helpful. We hope that the contents of issues 97-99 have stimulated interest in this important area. Readers are requested to keep us informed about their ideas and experiences. The selection is made on the basis that most of these would be available in any medical college library.

1 HEALTH AND THE DEVELOPING WORLD

John Bryant, Cornell University Press, Ithaca, London, 1971. This book has two relevant chapters on the education of the health team and the economics of medical education.

2 DOCTORS FOR THE VILLAGES

Carl Taylor et al. Asia Publishing House, 1976.
A study of rural internship in Seven Indian Medical Colleges. Possibly the only planned evaluation study on one aspect of medical education in India. Its findings highlight the 'feasibility of employing physicians in rural areas, the conditions under which they might agree to work and the structural and organisational changes needed to improve rural health care' and the physicians own training performance.

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3 AN ALTERNATIVE SYSTEM OF HEALTH CARE SERVICES IN INDIA : SOME PROPOSALS

J P Naik. Allied Publishers, ICSSR, 1977.

Includes recommendations from the Srivastava Report and a report on the Kottayam experiment on training Community Based Doctors.

4 HEALTH FOR ALL - AN ALTERNATIVE STRATEGY : ICMR/ICSSR, 1981.

An interesting chapter on the type of Personnel and Training required for an alternative model of health care in India.

5 PREPARATION OF THE PHYSICIAN FOR GENERAL PRACTICE

WHO Public Health Paper No.20.

One of the earliest public health papers of WHO which discusses many aspects of the early experiments in training of doctors in social medicine and for general practice. The paper on the "Psychological basis for Education of the Physician" is particularly thought provoking.

6 ASPECTS OF MEDICAL EDUCATION IN DEVELOPING COUNTRIES

WHO Public Health Paper No.47.

Its various chapters discuss objectives, student evaluation, integrated teaching, social medicine and some of the newer developments in the field.

7 EDUCATIONAL STRATEGIES FOR THE HEALTH PROFESSION

WHO Public Health Paper No.61.

Summarises the newer concepts of curriculum theory, evaluation, examination and decision making, dynamics of learning groups and evaluation of teachers and teaching effectiveness apart from other issues.

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8 PERSONNEL FOR HEALTH CARE - CASE STUDIES OF EDUCATIONAL PROGRAMMES

WHO Public Health Papers No.70 and 71.

These two volumes highlight the main experiments in medical education and curriculum development all over the world. The experiments in Nepal, Thailand and Phillipines are particularly relevant to our situation.

10 FOR FURTHER READING ON THIS SUBJECT FROM MFC SOURCES CONSULT INDEX OF 100 ISSUES (BULLETIN Nos. 100-101).

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9. Educational Handbook For Health Personnel
J. J. Guilbert, WHO OFFiser publicaton No 35 (1977)

A programmed text to help readers acquire the skills of stating educational objectives in behavioural terms, planning a curriculum, selecting learning activities, constructing tests and other measurement devices.

Importance of Economics of Healing in Medical Education and a Simple Way to Impart it

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Medicine is an art based on a scientific footing. This basis is mainly the chemical and physical processes involved in the physio-pathology of the body. The materialistic and western influenced attitudes plus the advance in modern technology have made a medical teacher and a student feel that these are the only important sciences to be taught and learnt, to become a successful doctor. He is thus being taught more and more details of the physico-chemical processes, or what may be termed as 'organic' changes, more and more of the detailed investigative approaches involving the great technological advances and is taught to plan his treatment on the 'Sound Basis' of these scientific facts. In terms of the best results, I have myself no doubt that some of these, if not all, have vitally contributed to the quality of the results of medical treatment. And yet, this is the most important reason, in my opinion, for the education becoming unoriented to the practical needs of the medical graduates, in our country.

For medicine in its fuller concept is an art based on the above-mentioned scientific footing. In actual practice, many other factors come into play in determining the care of the patient. The social factor, psychological factors, environmental studies, the religious biases, etc. But the most important and vital barrier to the effective practice of the knowledge learnt in the present way, is the knowledge of Economics of healing. In practice what to do and what should be ignored, which investigations are necessary and which can be avoided, and with what *material difference*, which equipments to buy and which would become burdensome, the choice between the best drug and the cheap drug, everything is determined by the socio-economic factors rather than anything else. But the graduate full of knowledge of physico-chemical processes often lacks in the knowledge of the economic influences on the medical practice and fails to satisfy his patients and thus gets rapidly frustrated. He tends to blame the masses for their ignorance, being little aware of his own ignorance that what he has not learnt in the college covers much wider field than what he has.

The present set up of full-time 'non-practising' teachers and free treatment to all patients in the teaching hospitals makes this deficiency in teaching even more glaring. For the entire cost of hospital, equipment and the treatment is borne by the Government or some autonomous bodies, while neither the teacher, the student nor the patient become aware at all of the actual costs incurred in the whole process. This results in growing dissatisfaction among *all* with demands for ever-increasing equipments and facilities, which more often than not, contribute so little to the qualitative or quantitative improvement in the results. Rarely though they do happen to be the most valuable modernities without which real progress would not be achieved. In short, neither the teacher, nor the taught and least of all the patient, ever even think about the cost involved in the so called modern methods and the *relative* benefit derived out of this added expenditure. In actual practice as soon as the medical graduate goes out of the college, he is confronted, *at every minute*, with the cost involved and its relative or comparative benefit to his patient. This makes him unable to take decisions, especially the 'cheaper decisions'.

Ultimately, some may learn, by themselves, the relative economic and medical values, but, many swing to the opposite side and think that science taught in the medical college is meant to be forgotten and everything in practice is Art. This way the word Art becomes synonymous with pure commercialisation, cheating and fraud. Some of the graduates who are too good in their science and fail to learn *by themselves* the real art, i.e. the moulding of medical practice to these socio-economic factors, return back to the full-time job seeking and in turn, not only continue to teach the pure science but fully ridicule

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any practical dilutions in practice (ridiculing the scientific aspects of ART, if I may say so).

Thus, the whole cycle of wrong emphasis leads to wrong choice of teachers, further emphasis on modernity and the society pays more and more, to receive less and less benefit in the poorer countries. The doctors trained by our college become progressively ineffective in treating our people, because they (the people) cannot afford such treatment. Strangely, the richer countries, already advanced, even in their countries in such technologies and the relatively affluent people there can afford them. This mutual satisfaction between those masses and our doctors seems to be one of the most important factors, why 'scientific doctors' are draining to the west. Are we not training them for their needs, and not ours?

Clinical Emphasis: Secondly, the present pattern of 'modern or technological' approach is leading to 'Office-type Doctors' with a progressive deterioration of clinical judgement. which is being substituted by investigative procedures. I emphasize that investigative approach is used to ***substitute and not to aid*** clinical judgement. Again the result being same quality to the patient at a higher cost and the cause being non-economy-oriented medical education. My personal experience, after having worked in newer and smaller colleges and slowly shifting to the City of Bombay, shows me clearly that by conscious efforts, clinical judgements can be improved and managements economised to half or even one-fourth.

The quality of clinical material available in the hospital is also a direct reflection of lack of understanding of the economic influences. Advanced cases, inaccessible for follow-up, from the poorest strata make it relatively easy for the senior medical staff to be relatively indifferent (and irresponsible). It is necessary to draw a more health conscious middle class and skilled labour to teaching hospitals, to make medical education worthwhile. Otherwise, today, it is only lecturing, without actual observation, about early signs and better treatments.

The present mode of selection of senior teachers by the Public Service Commissions again shows the same lack of importance to 'clinicians' as teachers, and indifference to medical economics. Research and publications are the mainstay, but ***there is not single column or a confidential reference regarding the candidate's ability to treat and teach.*** Result—unnecessary and elaborate modern investigations on the poor, advanced cases—long hospital stays, often at the cost of essential early treatment—all for the sake of research and publications—for the sake of promotions—expensive non-productive medicale ducation.

But it is a difficult task, for which time must be spent. But ease is preferred to effort and the new graduate becomes dependent on equipments than his own senses and judgements. Clinicians who could teach, what I am advocating, are available in plenty, but they seek direct rewards in practice and would not turn to full-time teaching jobs, which become unrewarding both monetarily as well as job-satisfaction-wise as such a person is usually condemned as a 'non-scientific teacher', a dilutor, non-research-minded, non-progressive etc. And yet, some objective method ought to be found to find out, retain, encourage and promote such 'clinical' teachers, who treat well and yet economically. Such teachers automatically will teach students the art of clinical judgement. Today, there seems to be no way, for the Deans, Administrators, or Service Commissions to sort out such types of teachers. Can we find a way out?

The answer is not simple but a simple beginning can be made in this direction, which can expand later to cover the problems that I have posed. And the simplest way to start would be 'to bill the patient'. Every patient, who is admitted to a medical college hospital, should receive a bill of expenses, at the time of discharge, irrespective of whether he pays for it or not. This bill must be given to him through the consultant teacher by the resident, so that all concerned would have seen it. The conception of the bill, for the present, is for medical education and hence the charges evolved can be only crudely accurate and need not be commercially accurate. They will give a comparative picture of the money spent over each patient, over each disease, and would help to statistically evolve the comparative benefit derived to the patients or the masses through ***additional expenses for modernities.*** For a 600 bedded hospital with 12,000 admissions a year, this involves making about 40 bills a day and the total extra establishment would not be much.

A1/PT/4 (Contd.)

Such a scheme will automatically make *all money-conscious*. The impact of additional space, personnel or equipment will be immediately reflected in the bill and the teacher and the taught would necessarily ponder over it, whether this was essential or not. *Some* may now substitute *clinical judgements* to investigations bringing the costs down. It would now be possible to sort out a better Clinician as one who gives better results *with lesser costs*, and attempts could be made to retain and promote him or encourage him by offering larger responsibilities and/or monetary incentives. It would be necessary for making the scheme more educative, to arrange regular forums for discussions, seminars, monthly meetings etc. where clinical results would be evaluated with the bills of expenditure.

The positive concept of health is essentially due to the economic influences in the modern society. The need to keep productive, money-earning population is not only not-ill but fit, fit for skills and possibly fitter than before, through the medical progress is a pure product of understanding of economic influences in modern society. Unfortunately, it is becoming necessary in our country to teach the medical profession, especially in medical colleges to distinguish between essential treatments for positive concept of health. For after such isolation, it will be correct and scientifically appropriate to charge fully for the latter and increase the direct income to the medical colleges, independent of the State or public money. Such accrual of direct wealth could make for a self-expanding medical education system and only such self-expanding medical education system and only such self-expanding colleges are likely to retain permanently their utilitirian character. Again the beginning is in introduction of medical economics and the first step is billing the patient and critical evaluation in periodical discussions, seminars etc.

The answer is not that simple of course and involves many more basic changes in the system. While a lot of discussion centres round the content of medical education, extremely little time is spent over the need to select proper teachers, and still less to medical and hospital organisation in the utilitarian way. It is easily forgotten that the student learns from *what he sees and not what he hears*. Today, he is learning to do less and argue more (discuss is the euphemistic word), because that is what some of the teachers do. He cannot decide, without multitudes of reports, because that is what he sees. He fails as a house-surgeon, to talk and explain to his patients about the nature of illness and details of treatment and show sincere sympathies, but merely replaces them by efficient 'Organic and technological' approach, because that is what he sees in the hospital.

This would be only a beginning to give a social bias and practicality to our education system. Other aspects like social, religious, psychological, environmental, (rural and urban) factors, also might have to be brought home to the new students' notice. Such an expansion of teaching of Art, will necessarily restrict the horizons in the knowledge of science and modern technology. A hue and cry would develop, that our students thus would be unable to compete with others in the Western World, and would be found to be unfit there. It is for the educators here to decide, would it be better for the country or worse. It is for us to decide whether we train our students for foreign fitness or for internal fitness. This is what I call, 'Indianization' of Medicine.

Another common argument put forth is that these things need not be taught, and students would learn them automatically, when they go out in society, I have myself conceded this fact in the case of many. But it is at the expense of many more years, but more discomforting is the fact that a progressively larger number of students fail to learn this or accept and adapt to it, without a sense of guilt or shame. Secondly, it is leading to wrong choice of clinical teachers. Let us also remember that commerce, business management, teaching, and politics are also being taught today and with advantage. Were not the former generations practising them and learning by themselves? Lack of natural inheritance in the new students in all fields today makes it imperative to include such aspects in the formal education.

I urge that these things should not be brushed aside, as politics, trade unionisms, or purely non-educative subjects, for they, more than the paper-definition of the contents of education, will determine the progress of medical education in India and its usefulness to the Indians.

Low-Costs Systems of Visual Aids in Medical Education

by David Morley, Senior Lecturer in Tropical Child Health, Institute of Child Health, University of London

Cassette television, or television piped from a satellite, is still many years away for the medical teacher in developing countries and yet he needs help here and now to assist him in teaching more effectively with visual aids.

Teaching Aids at Low Cost (TALC) is a non-profit making organization set up to meet the needs of medical teachers, particularly those working in the field of child health. Keeping down costs is essential, as most of these teachers are working in situations where they have to provide any visual aids they need from their own pockets. In some parts of the world, one Kodachrome colour film may cost the medical teacher between 5% and 10% of his month's Government salary, and in these circumstances he is unlikely to be preparing his own transparencies for use in teaching. Most of the work of TALC is concentrated on the use of transparencies, as the colour transparency, with either a written script or a tape recording, is the most economical and practical way of making visual aids available for teaching in a developing country.

Low cost

A strip of 24 transparencies, if mass-produced, will cost around 20p. To this must be added the cost of the script, which is printed using a lithographic method and which costs 5p. Strong self-sealing cardboard mounts, if ordered in large numbers, prove to be quite inexpensive. The packing and despatch of the parcel of transparencies, mounts and script is undertaken by married women working from their own homes, which again reduces overheads to a minimum. In this way, TALC is able to send out 24 colour transparencies, with a script of five or six pages, post free, by surface mail, anywhere in the world, for 60p.

Our efforts to bring down the cost of this form of teaching aid have met a tremendous demand. Currently between 3,000 and 4,000 sets are being sent out each year, and the organization has just sold its quarter-millionth transparency.

Standardization

In order to simplify the production of this teaching material, it was necessary to standardize the length of each set to 24 transparencies. This number of slides fits easily into a transparent foolscap sheet and can also be conveniently stored in a single sheet in a standard filing cabinet. (Fig. 1). Similarly, to achieve standardization, only horizontal transparencies are used. The limitation to 24 slides is not serious. Experience has shown that the format of the majority of slides leaves a large area of the slide unused and that it is possible to join slides together to make a more effective teaching aid. For example, one of the more recent sets made available through TALC on *Leprosy in Childhood* is made up of 47 transparencies, although there are only 24 frames.

The horizontal format allows the cardboard mounts all to be printed with a mark which indicates how they have to be placed in a projector. This again is necessary, as many of those using this material are unaccustomed to using slide projectors. A simple method of numbering every transparency has been evolved, so that those listening to the tape, or reading the script, can be sure that they are looking at the correct slide.

Difficulties of black-out

Medical teachers and others have failed to communicate effectively to architects to ensure that adequate space

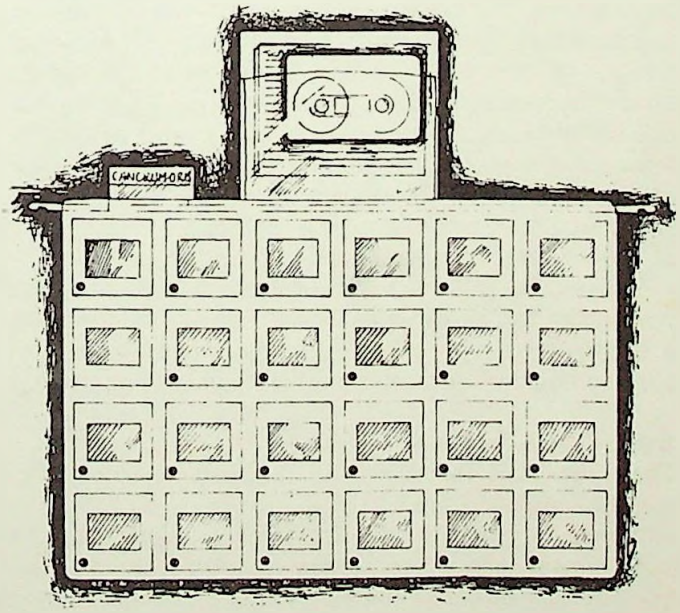

Fig. 1: These plastic, combined slide and cassette holders are supplied ready to hang in a 15" × 20" (39 × 24cm.) hanging film cabinet.

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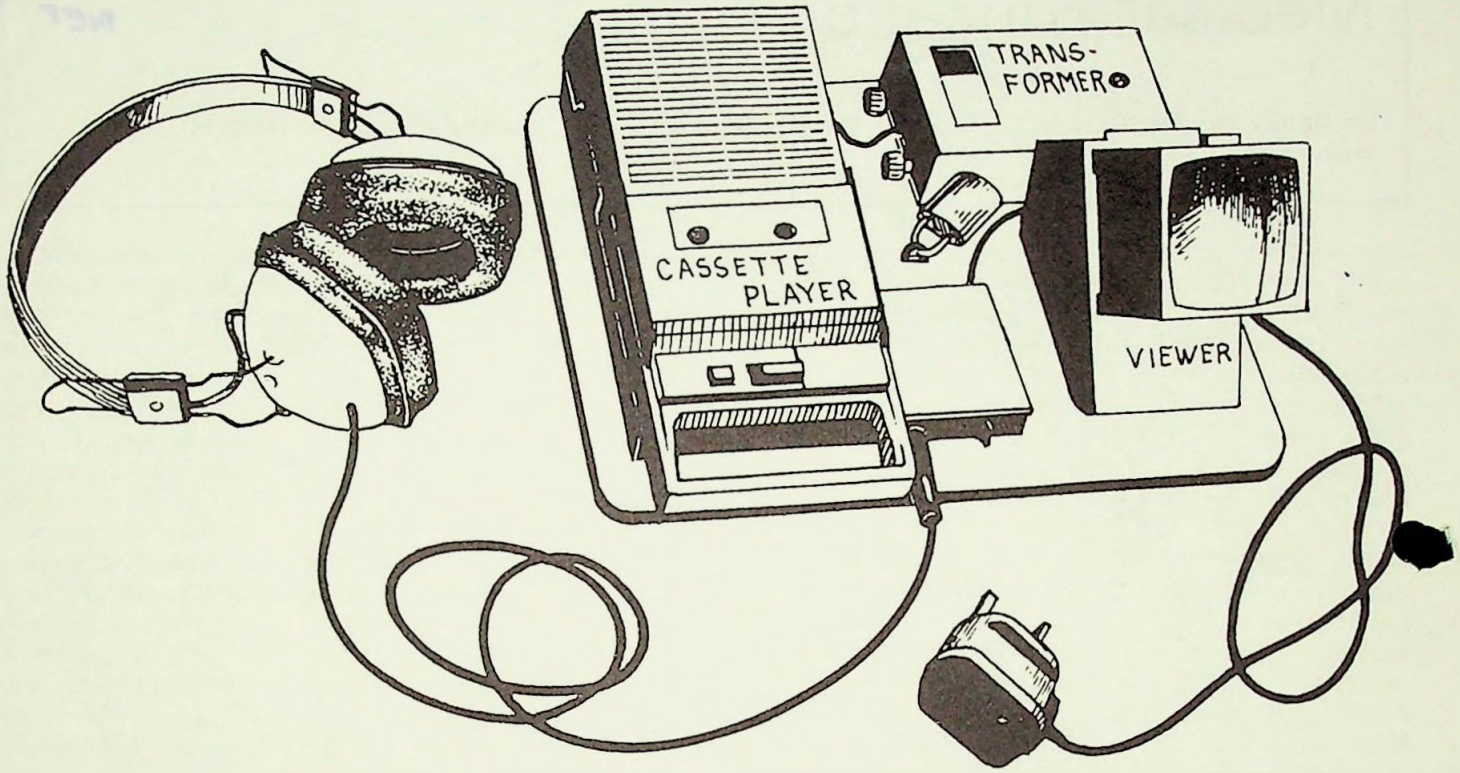

Fig. 2.

is available to allow visual aids to be projected in a cool atmosphere. The majority of lecture theatres in developing countries are still not easily blacked out. Although there is no reason why it should not be as cool as the shade temperature, the blacking-out of a lecture hall usually reduces the air flow; it is not long before the temperature rises and teaching becomes steadily less effective. Air conditioning is prohibitively expensive for large lecture theatres and should not be necessary if sufficient care has been taken in their design.

Because of this difficulty in the use of visual aids, during the last three years TALC has been developing a simple system by which the transparencies may be studied by individual students, preferably in a library.

Slide-Tape Tutor

The Slide-Tape Tutor (Fig. 2) has been developed as a simple answer to the use of this material by individual students. It consists of a standard cassette player, a slide viewer and a transformer, so that both of these may be run from the mains. This is all mounted on a strong board and placed in a box (not shown in the figure) which can be locked to the library table, so that it cannot be removed and does not have to be locked away when not in use.

The student obtains from the librarian a plastic sheet containing 24 slides, and in the pocket at the back a cassette on which is recorded the lecture. The lecture may have been recorded anywhere in the world and the student should be looking at transparencies which have been expertly prepared. The recorded lecture quotes each slide number and then gives a carefully-prepared description of each slide. On the reverse side of the tape are recorded a series of questions and answers, so that the student may check for himself whether he has gained the information that the slide is attempting to teach him. When he has finished the student returns the plastic sheet and the librarian can see at once that all 24 slides are present, together with the cassette.

Discussion

The demand for low-cost material of the type described here has been most encouraging and suggests one way in which the more fortunate industrialized countries can assist the developing areas of the world. It gives considerable satisfaction to those who take trouble to prepare effective teaching aids to know that these can be widely distributed and used by teachers in universities and medical schools which do not as yet have effective departments of medical illustration. Although this method and system was designed primarily for developing countries, there has been considerable interest in it in Europe and North America as one which is simple to instal and maintain and can be extremely versatile.

MEP 86-5

MINUTES OF THE FIRST MEETING OF MEDICAL EDUCATION PROJECT ADVISORY COMMITTEE

The first meeting of the Medical Education Project Advisory Committee was held at St.Martha's Hospital on 12th of May 1990.

The Members present were Dr.C.M.Francis, Dr.V.Benjamin, Dr.K.Zachariah and Ravi and Thelma Narayan. Dr.George Joseph regretted his inability to attend the meeting because of personal reasons.

The committee explored various dimensions of the project outline and the following decisions/suggestions were made:

(1) Linkages with Institutions

The project being undertaken by CMC is sponsored by the CMAI, which will provide financial assistance to the project. They have authorised the opening of a CMAI-Medical Education Project Account in Bangalore. CMAI has also been approached for support but this has not yet been confirmed.

CMC-Ludhiana (CMC-L), CMC-Vellore (CMC-V), CMC-Miraj (CMC-M) and St.John's Medical College (SJMC), have been invited to participate in the project, through peer group support and finances. CMC-L has confirmed financial support. CMC-V and CMC-M are unable to contribute financially but have suggested Principal/Vice Principal CMC-V and Dr.Kalimdi Thomas (CMC-M) for the peer group process. SJMC has also shown interest and have suggested Dr.Prem Pais (Associate Professor of Medicine) for the peer group.

Dr.D.K.Srinivas, Prof and Head, Department of Community Medicine and Member, National Teacher Training Centre, JIPMER, Pondicherry will interact with the project team informally.

(2) Support Process to CMC-L Development

The Medical Education Project is expected to be supplementary/ complimentary to the 'new' of 'ongoing' efforts of different members of the CMC-Network. However in lieu of the positive developments in the Punjab University, giving CMC-L the green signal to develop the experimental parallel track by July 1991, the CME team (MR & TN) and Dr.C.M.Francis and Dr.K.Zachariah (CMC-V) have agreed to a three-step support process to CMC-L staff as they evolve the definitive curriculum. These steps are:-

i) Reflective Review and collation of Framework of course from all the existing plans/reports and papers of CMC-L Faculty on the Course.
(By CME Team, Bangalore)

..2

ii) Workshop with 3-5 core team of staff of CMC-L in Bangalore along with RN/RM/CHN and PE.

iii) Two week curriculum development exercise with Dr.C.M.Francis at CMC-L.

This will be an additional task of the project researches and some of the advisory committee members in solidarity.

(3) Reviewing the Project Objectives

The three main project objectives were then reviewed.

(3a) The Foundation Course/Pre Selection Course

It was felt that this objective more than the others would draw most upon the CHC experience and the creativity of the team.

The Objectives of students undergoing such a course would be

i) Sensitization to societal factors/community orientation and preparation for community work.

ii) Assessment of the suitability of the student for community oriented medical education.

iii) Preparation for self directed study and other learning skills required in a Community Oriented MBBS Course.

It was felt that it would be important to work out the overall philosophy and the content and methodology of such a course as also the minimum time framework required to meet the course objectives.

Different medical colleges could adapt it into their respective systems according to local feasibility and need. Thought has to be given to the future of the students who complete the course, but do not get selected to the medical course.

Various scenarios are emerging and will emerge in the coming years. The course planning should keep these in mind.

i) The medical college may link the foundation course to a BSc Health Sciences course (1 Year) in a science college/university. However since university guidelines may put conditions such as BSc should lead to MSc or that there should be one main and two ancillary subjects etc., the flexibility of the course with adequate time for field work may get curtailed.
e.g. CMC-V is exploring such a course, link with MGU-Madras.

ii) The course could be linked to a school of social work who may be more attained to methods such as field placements, case studies etc.,

iii) The course could be incorporated in full or in parts into the existing medical course during Community Orientation programmes, field placements and block postings.

..3

iv) A medical college could add a specific 3-6 months or more for such a course as additional to the existing course duration and requirements.

It was suggested that about one third of the total medical education project year should be spent working on this Foundation Course. While the training experience of the voluntary sector in health and development fields would be drawn upon as resources for this course it may be better to plan this course later in the project after a review of the existing efforts of medical colleges in this area.

(3b) Review of Experiments/Experiences in Community Orientation in existing Medical Course.

It was discussed that though the overall social/community orientation of medical education has been considered to be rather inadequate by expert committees and government policy statements, there have been many innovations and experiments in some medical colleges which have been inadequately published or documented. These experiences need to be collated and made available to all those who are trying to innovate within existing constraints.

Apart from documenting these experiences spread over many medical college departments all over the country, the project team could select about 10 colleges for a more detailed study, concentrating on methodologies used, and trying to identify qualitative factors which help and those which hinder, circumstances and process factors that were operative at the time of innovation; evaluation of the attempts if any and so on. The sorts of areas that would be focussed on would be:rural/community orientation camps; Family Health advisory service; integrated MCH teaching; ICMRprogramme; Block postings in the Community; CPCR units; Rural internship and so on.

While special effort would be made to document the smaller, lesser known innovations this intensive 10 medical college study would help to critically evaluate some of the more common and known innovations.

The committee reviewed the list of medical colleges given in the project proposal (Appendix A-5). It was felt that besides those which function relatively autonomously it would also be useful to look at some more typical government colleges who have also tried experimentation e.g.- Government Medical Colleges in Mysore, Bangalore or Calicut, Lucknow, Udaipur or one of the Calcutta Colleges.

Sources of information to identify these experiences/experiments would be those listed in the project outline:-

..4

i) Computer Search - from WHO Geneva/SEARO Delhi, National Medical Library, Delhi, NTTC-JIPMER and WHO Regional NTTC in Srilanka.

ii) Announcements or letters to the Editor in few professional journals
JIMA, JAPI, IJME and Indian editions of BMJ and JAMA.

iii) Health journals/bulletins in the NGO sector-
HFM, HA, mfc-b, AJH etc.,

iv) Personal communications to coordinators/innovators in medical colleges and Community Health training centres.

Apart from these the committee also suggested three other methods:-

i) Letters to all medical college Deans and Professors of Department of PSM.

ii) Announcements at key conferences of professional groups/Associations.

iii) Letter to the editor in The Hindu and Indian Express.

The content of the communication could draw upon the available summary of the project outline.

(3C) <u>Feedback from recent medical graduates who have done some service in a peripheral hospital or Community Health Project.</u>

When this objective was discussed there was some difference of the opinion in the committee of how useful this exercise would be considering the efforts that would be needed.

It was emphasised that great care should be taken while developing the questionnaire, so that it provides good information even though qualitative. Only CMC-V and SJMC have rural placement schemes. The questionnaire could be sent to graduates of a particular period and efforts made to get atleast 50 per cent of the estimated respondents. It was pointed out that conducting such an exercise may be a sensitive issue with the concerned medical colleges especially if it was misunderstood as some sort of evaluation of institutional effort and therefore the whole exercise should be handled with great sensitivity.

Graduates from other medical colleges who have worked in rural/community health projects could also be approached through, e.g. mfc. These two samples would complement each other. In spite of some initial reservations of the overall usefulness of this exercise it was decided that a questionnaire would be developed and pre tested in 10 such graduates working as Post Graduate Students in SJMC with the help of the peer person involved in the project. This would be reviewed at the next Advisory Committee Meeting and further action planned.

(4) Prioritisation of Objectives

Given the time framework of one year for the project and the rather broad canvas set out in the initial project outline it was suggested that it would be useful to focus on three main areas.

1. A reflective, interpretative review of experiments towards community orientation of medical education bringing together Indian experiments and experiences in a fairly thorough manner and focussing on atleast 10 medical colleges for comparitive detail.

2. A review of training experiences in community health and development in the NGO/Voluntary sector to identify innovative methodologies that could be introduced into medical education. Areas covered would be social analysis, social sensitisation, community orientation and alternative pedagogy. This section would build up a years course geared to some of the objectives of the Foundation Course but not focussing on any specific scenario or institutional plan.

3. Feedback from recent medical graduates who have worked in small peripheral hospitals/community health projects after handling independent responsibility and learning from them
   - -what were the skills and knowledge they were called upon to use
   - -which areas they felt confident
   - -which areas they felt inadequate etc..

This would be a qualitative exercise, where the project would look retrospectively and would also develop a perspective for the future. It would enable us to get a feel for the present ground realities which are ever changing and on the basis of this dynamic dimension, think creatively about changes that may be necessary.

There was a discussion whether we should focus and cover one or two fairly thoroughly or whether we should be more comprehensive and sacrifice some of the details which could be filled in later on as a continuum of the process initiated. There was a consensus to give emphasis to (1) and (2) and evolve item (3) as we go along.

(5) Roles

(a) Advisory Committee

This would be a sounding board reacting to any written materials circulated and meeting together once in 3-4 months to review the evolving project dynamics. In between the formal meetings there would be informal interactions whenever necessary and possible.

..6

(b) Peer Group

Regular meetings of the entire group do not seem feasible. However we would keep them informed about the evolving dynamics and send them all the reviews/reports as they emerge for their participative feedback and comment. Meetings with them would be at an individual level during possible visits to the respective institutions. Additionally they could help the research team to meet students and staff of the institution for focus group discussions around project related issues.

(c) Research Associates

The project needs to be very flexible on this linkage. CHC team members and local associates and colleagues when available, would be linked to the project for short-term assignments/assistance to the documentation/review exercise.

(d) Other Issues

(a) After the initial phase of review (April-September 1990) of existing materials/publications, the project team will plan field visits to institutions/projects in the second half of the project year.

(b) A summary/anthology of CHC materials on the project theme as a preliminary report for circulation, was considered.

(c) A bibliography of all the relevant literature collected during project year would be an additional output of the project.

(d) There was a suggestion to look at selection procedures for students and teachers especially in those colleges who have already seriously committed to community orientation. This may be informative and useful to others.

(e) All the other sections in the Appendix-I of the project outline and the suggestions from committee members and peers (Dr.P.Zacharias, Anant Phadke, Dhruv Mankad) were also considered and though many of the suggestions were very relevant it was decided that since the project was for a year to begin with the prioritization outline in (5) would be followed. In the event of longer-term support being possible beyond March 1991, the other suggestions could be considered.

(7) The next meeting of the Advisory Committee will be held in the last week of August 1990/early September 1990.

-xxxxxxxxxxxxxxxxxxxxxxxxx-

" M A K I N G M E D I C A L E D U C A T I O N
R E L E V A N T
T O T H E N E E D S O F S O C I E T Y " -
A STUDENTS POINT OF VIEW

B Y

DR. RAVI NARAYAN, REGISTRAR.

ST. JOHN'S MEDICAL COLLEGE,

B A N G A L O R E.

Paper Read at XI Annual Conference of India Association of the Advancement of Medical Education. Held at Armed Forces Medical College, Poona on February 26th, 1972, at the Students Seminar.

INTRODUCTION

The history of Indian Medical Education reaching down over the decades - for over 100 years, has seen no major changes in its pattern, structure or adaptation to the changing needs of Indian Society. The health needs of India are varied. Side by side we have existing the bullock-cart age where primitive practices of sanitation and hygiene result in a mortality of over 30% in the rural areas; and we have the jet age in our big cities where cancer, hypertension Diabetes, Mental illnesses and other so called diseases of civilization are taking a heavy toll. In addition even after over two decades of Independence and National planning the problem of uneven distribution of Medical personnel i.e. 20% of Doctors in areas where 80% of the population resides, still continues. This is irrespective of the increase in number of medical colleges from 25 in 1947 to 97 in 1971 and the annual admissions from 2000 to 12000. Since our Medical Colleges continue to be located in the urban areas the needs of the rural population has been sadly neglected and in addition the concept of community health even in our urban areas has not been adequate stressed by these colleges. Therefore the greatest need in India today is -

1. To make Medical Education more community oriented.
2. To reorient clinical training to prepare our young doctors for work in Rural areas.

A. "BASIC DOCTOR"

The present system of Medical Education serves admirably to train our young graduates for work in our large city hospitals modelled on the British and American pattern and not in our rural and semi-rural community centres. The needs in a rural area are very different from those in an urban society. "In the urban areas one can accept the responsibility for a limited group of people knowing well that others can seek and obtain equivalent advise and care elsewhere but in rural areas a doctor must accept responsibility for a large number of people often quite beyond the possibility of his own personal management acknowledging that if he

declines this responsibility he deprives them of all sources of medical help". In order to work in a rural area therefore a doctor must be what the Government of India defines as a "Basic Doctor" - i.e.: "one who is well conversant with day to day problems of urban and rural communities and is able to play an effective role in the curative as well as preventive and promotive aspects of regional and national health problems."

SHORT COMINGS IN THE PRESENT SYSTEM

The present system makes the young medical graduate 'professionally incompetent' and 'emotionally unprepared' to face his new role in the community because of the following shortcomings:

1. Education is not community oriented :

Medical Education in India is very hospital oriented and not community oriented. The doctor does not learn to treat his patient within the context of his life of in society but on the basis of brief encounters in the wards. He loses sight of the fact that the stress and strain of everyday life affects the patient both in health and disease and if this is not taken into consideration the treatment becomes one sided.

2. Academic Environment of Institutions :

The environment in nearly all the teaching institutions is highly academic where each person endeavours to work in as narrow a field as possible. This stress on specialization leads to the fragmentation of a patient making medicine more organ-centred. The student therefore prefers to specialise rather than take up general practice.

3. Stress on Curative Medicine :

Too much stress is laid in our teaching hospitals on curative medicine and little or no stress on the preventive and social aspects. A student studies these aspects through a course of didactic lectures but no attempt is made to make these concepts a practical reality with reference to the cases in the ward.

4. Foreign Bias in Medical Education :

The textbooks we study are all written by foreign authors whose experience is based on cases and facilities present in their hospitals. The student thus develops a foreign bias and is not able to reorientate his knowledge to suit the special needs in our rural areas or even in our smaller urban communities.

COMMUNITY ORIENTED MEDICAL EDUCATION

TO make our system relevent to the needs of our society certain changes have to be introduced in our present patterns of training. In this paper the changes are suggested in order, from the pre-professional year to the period of internship. Many of them have been suggested in other papers on this subject in the last few years and the repetition is unavoidable. All these suggestions have been discussed with students and all of them have been found to acceptable to them.

For Medical Education to be more community oriented the earliest change must be :

a) Pre-professional Student Counselling -

All high school and pre-university students planning to take up medicine as a profession must be counselled :-

i) to make them aware of their responsibility to society,

ii) to prepare them to meet the special demands of the long medical course. This measure will prevent wastage of potential medical personnel due to chronic failures caused by disinterest and emotional inadequacy. Also for girls who do not plan to pursue their profession after marriage this counselling would help them to choose other less demanding professions.

b) Pre-professional Course -

The present pre-professional course is to a large extent an unnecessary repetition of the higher secondary or preuniversity course. All the subjects taught are not adequately medically oriented :

i) In Botany or Zoology the stress should be on understanding the basic principles of human anatomy and physiology by a study of similar structure and function in plants and animals.

ii) In Physics and Chemistry - various aspects of so-called Biophysics and Biochemistry should be stressed.

iii) The student should be prepared for his role in society through lectures in certain aspects of sociology, anthropology, elements of economics, statistics and biomathematics even at this stage.

c) Pre-Clinical Course -

1) Anatomy and Physiology from the basis of our medical education and the content of these courses cannot be radically altered except that the teaching should be less cadaver-oriented and more clinically oriented. The student must be exposed to clinical material to help him understand better the normal anatomy and physiology of an individual and the changes in them which constitute disease.

2) The introduction of Preventive & Social Medicine at this stage is very welcome. The student must be taught about Nutrition, Environmental, Industrial and personal Hygiene, Population Dynamics and National Health problems and programmes. A systematic course in the social sciences i.e. : in Sociology and Psychology at this period of training will make the student aware of certain duties towards the community which are overlooked during the hospital training.

d) Clinical Course -

It is during this period of training that medical students can be made most community and 'rural' conscious. Though the hospital is the centre of his training an attempt should be made with the help of a well organised community health department to shift the emphasis of training and research from the hospital to the whole community in which the hospital resides. This can be done by :

1) Clinical bed-side teaching must take into account the preventive and social aspects of diseases encountered in the wards and the student should be encouraged to study these aspects in each case. e.g.: In a case of T.B.

i) a follow up of the patients contacts must be made,

ii) at the time of discharge the patient and his family must be educated on the health measures to be taken to prevent spread of the disease,

iii) a study of the socio economic circumstances in which the patient developed T.B. should be made. This will help students to understand and appreciate all aspects of a disease and its treatment.

2) Throughout the course in addition to the ward training the students, in batches must be made responsible for the primary health of organised groups in society like school and college students, children in orphanages, inmates of destitute homes, rehabilitations centres, prisons and in the big cities even of localised slums. The stress should be on primary health care and mass screening. After his first clinical

year, he student will be in a position to take keen interest in such activities. One of the criticisms of hospital training is that the students are not given enough responsibility in the treatment of the patients. The above scheme would help them to shoulder this responsibility and make them more conscious of their usefulness in society. Recently the Bangladesh Refugee problem gave many of our interns and students an opportunity to voluntarily accept the responsibility of a large number of people for a certain time and this has been a very rewarding experience.

3) Rural orientation; It is necessary in order to prepare a student for work with rural conditions, culture and traditions, and the psychology of villagers. This can be done by :-

i) a study of an Indian Textbook which should be prepared on the lines of the book "Medical care in Developing countries - a symposium from Makerere - Nairobi which is based on African rural conditions.

ii) Practical training in rural areas for upto 6 months during the clinical years and 3 - 6 months during the period of internship.

4) The Preventive & Social Medicine Department which would also be a Public Health or community health department has a very important role during the clinical years. In addition to the coordinated activities suggested above students should be helped to conduct surveys and studies in the field-work areas in nutrition, infant care maternal welfare and in diseases like TB, Cancer, Malnutrition and Diabetes. The students could also be posted in this department for 1-2 months for participating in the above schemes.

e) Internship :- Finally it is during the period of internship that the young medical graduate will be able to determine how well oriented he is for work in the rural areas - if he is posted in a Primary health centre for 3 - 6 months. In the company of a senior doctor and his colleagues he will get a first hand impression of the type of work in Rural Medical Centres, which will give him a background for possible village work after internship. Each Medical college could take over a few primary health centres or start its own rural health centres where such training could be imparted. This programme could be planned out with the Government District Health officer so as to prevent too much overlapping in the health care of particular

villages. In this connection the government scheme of supplying 50 bedded mobile hospitals to medical colleges to provide opportunity for rural work is very welcome.

f) Postgraduation :- According to latest estimates at least 50 % of Medical graduates go in for higher studies either in the country or abroad. One of the main reasons is that young doctors who qualify have to complete with their seniors who are already well established in the urban areas. Therefore to enter this highly competitive field they feel the need of a postgraduate degree of specialization. If at this stage however the government offers certain incentives like "good living and working conditions, vehicle for field work, visits to specialised institutions in the country and abroad and opportunities for professional advancement by way of admission to postgraduate courses after completion of 2 - 3 years in rural areas". I am sure with the added background of rural orientation during the medical course the majority of our young doctors will opt for the rural areas.

In conclusion it can be said that the crying need of the moment in the field of medical education is to widen the horizon of the student from a severely clinical-patient oriented outlook to a wider, socially conscious—community outlook and a student symposium such as this is a very constructive step in this direction.

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Students' Seminar

MAKING MEDICAL EDUCATION RELEVANT TO THE NEEDS OF THE SOCIETY:

A STUDENT'S POINT OF VIEW—PAPER I

by

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The system of medical education in our country is a legacy of the past. Its structure and pattern have not materially changed for many decades.

Primarily evolved to train doctors for working in large city hospitals, this system is not suited to prepare doctors for serving rural or semi-rural communities. Its major shortcomings are:

(a) It is not community oriented.

(b) Because it is hospital oriented, too great an emphasis is laid on specialisation.

(c) Too much stress is laid on curative medicine and little or none on preventive and social aspects.

(d) It has a foreign bias.

To make medical education relevant to the needs of our society, it must be community oriented. In order to achieve this goal, the following suggestions are made:

(a) Guidance and counselling of pre-university students desiring to take up medicine as a profession with a view to making them aware of their responsibility to the society.

(b) During the pre-professional course, elements of sociology, anthropology, economics, statistics, and biomathematics should be introduced. Also at this stage, the study of science subjects, namely, physicse chemistry, botany and zoology should be relevant to their application to the related fields in medicine.

(c) The pre-clinical course should be clinically oriented rather than cadaver oriented as it is at present. The pre-clinical training period would be the proper stage for the teaching of nutrition, environmental sanitation, industrial health and personal hygiene, population dynamics, national health problems and programmes.

(d) During the clinical course, concerted efforts must be made to impart community oriented training. Emphasis should shift from the hospital-centred training to the training for the provision of comprehensive health-care to the community. Familiarisation of the students with rural conditions, rural culture and traditions, and with the psychology of the village-folk should form an integral part of the curriculum during the clinical period.

(e) During their internship, the fresh graduates should serve for 3 to 6 months in a primary health centre under the guidance of senior and experienced doctors.

Introduction

The history of Indian Medical Education reaching down over the decades-for over 100 years, has seen no major changes in its pattern, structure or adaptation to the changing needs of Indian Society. The health needs of India are varied. Side by side we have the existing bullockcart age where primitive practices of sanitation and hygiene result in a mortality of over 30% in the rural areas; and we have the jet age in our big cities where cancer, hypertension, diabetes, mental illnesses and other so called diseases of civilisation are taking a heavy toll. In addition even after over two decades of independence and national planning the problem of uneven distribution of medical personnel i.e. 20% of doctors in areas where 80% of the population resides, still continues. This is irrespective of the increase in number of medical colleges from 25 in 1947 to 97 in 1971 and the annual admissions from 2000 to 12000. Since our medical colleges continue to be located in the urban areas the needs of the rural population have been sadly neglected and in addition the concept of community health even in our urban areas has not been adequately stressed by these colleges. Therefore the greatest need in India today is—

1. To make medical education more community oriented.
2. To reorient clinical training to prepare our young doctors for work in rural areas.

A "Basic Doctor"

The present system of medical education serves admirably to train our young graduates for work in our large city hospital modelled on the British and American pattern and not in our rural and semi-rural community centres. The needs in a rural area are very different from those in an urban society. "In the urban areas one can accept the responsibility for a limited group of people knowing well that others can seek and obtain equivalent advice and care elsewhere but in rural areas a doctor must accept responsibility for a large number of people often quite beyond the possibility of his own personal management acknowledging that if he declines this responsibility he deprives them of all sources of medical help". In order to work in a rural area therefore a doctor must be what the Government of India defines as a "Basic Doctor"– i.e: "one who is well conversant with day-to-day problems of urban and rural communities and is able to play an effective role in the curative as well as preventive and promotive aspects of regional and national health problems."

Shortcomings In The Present System

The present system makes the young medical graduate 'professionally incompetent' and emotionally unprepared' to face his new role in the community because of the following shortcomings:

1. Education is not community oriented:

Medical education in India is very hospital oriented and not community oriented. The doctor does not learn to treat his patient within the context of his life in society but on the basis of brief encounters in the wards. He loses sight of the fact that the stress and strain of everyday life affects the patient both in health and disease and if this is not taken into consideration the treatment becomes one-sided.

2. Academic Environment of Institutions

The environment in nearly all the teaching institutions is highly academic where each person endeavours to work in as narrow a field as possible. This stress on specialization leads to the fragmentation of a patient making medicine more organ-centred. The student therefore prefers to specialise rather than take up general practice.

3. Stress on Curative Medicine

Too much stress is laid in our teaching hospitals on curative medicine and little or no stress on the preventive and social aspects. A student studies these aspects through a course of didactic lectures but no attempt is made to make these concepts a practical reality with reference to the cases in the ward.

4. Foreign Bias in Medical Education

The textbooks we study are all written by foreign authors whose experience is based on cases and facilities present in their hospitals. The student thus develops a foreign bias and is not able to reorientate his knowledge to suit the special needs in our rural areas or even in our smaller urban communities.

Community oriented Medical Education

To make our system relevant to the needs of our society certain changes have to be introduced in our present patterns of training. In this paper the changes are suggested in order, from the pre-professional year to the period of internship. Many of them have been suggested in other papers on this subject in the last few years and the repetition is unavoidable. All these suggestions have been discussed with students and all of them have been found to be acceptable to them.

For medical education to be more community oriented the earliest change must be :

(a) Pre-Professional Student Counselling :

All high school and pre-university students planning to take up medicine as a profession must be counselled :

(i) to make them aware of their responsibility to society;

(ii) to prepare them to meet the special demands of the long medical course. This measure will prevent wastage of potential medical personnel due to chronic failures caused by lack of interest and emotional inadequacy. Also for girls who do not plan to pursue their profession after marriage this counselling would help them to choose other less demanding professions.

(b) Pre-professional Course :

The present preprofessional course is to a large extent an unnecessary repetition of the higher secondary or pre-university course. All the subjects taught are not adequately medically oriented :

1. In Botany or Zoology the stress should be on understanding the basic principles of human anatomy and physiology by a study of similar structure and function in plants and animals.

2. In Physics and Chemistry-various aspects of so-called Biophysics and Biochemistry should be stressed.

3. The student should be prepared for his role in society through lectures in certain aspects of sociology, anthropology, elements of economics, statistics and biomathematics even at this stage.

(c) Pre-Clinical Course :

1. Anatomy and Physiology form the basis of our medical education and the content of these courses cannot be radically altered except that the teaching should be less cadaver-oriented and more clinically oriented. The student must be exposed to clinical material to help him understand better the normal anatomy and physiology of an individual and the changes in them which consitute disease.

2. The introduction of Preventive and Social Medicine at this stage is very welcome. The student must be taught about Nutrition, Environmental, Industrial and Personal Hygiene, Population Dynamics and national health problems and programmes. A systematic course in the social sciences i.e., in Sociology and Psychology at this period of training will make the student aware of certain duties towards the community which are overlooked during the hospital training.

(d) Clinical Course :

It is during this period of training that medical students can be made most community and 'rural' conscious. Though the hospital is the centre of his training an attempt should be made with the help of a well organised community health department to shift the emphasis of training and research from the hospital to the whole community in which the hospital resides. This can be done by :

1. Clinical bed-side teaching must take into account the preventive and social aspects of diseases encountered in the wards and the student should be encouraged to study these aspects in each case. e.g : In a case of T B—

(i) a follow-up of the patient's contacts must be made,

(ii) At the time of discharge the patient and his family must be educated on the public health measures to be taken to prevent spread of the disease,

(iii) A study of the social economic circumstances in which the patient developed TB should be made. This will help students to understand and appreciate all aspects of a disease and its treatment.

2. Throughout the course in addition to the ward-training the students, in batches must

be made responsible for the primary health of organised groups in society like school and college students, children in orphanages, inmates of destitute homes, rehabilitation centres, prisons and in the big cities even of localised slums. The stress should be on primary health care and mass screening. After his first clinical year every student will be in a position to take keen interest in such activities. One of the criticisms of hospital training is that the students are not given enough responsibility in the treatment of the patients. The above scheme would help them to shoulder this responsibility and make them more conscious of their usefulness in society. Recently the Bangladesh Refugee problem gave many of our interns and students an opportunity to voluntarily accept the responsibility of a large number of people for a certain time and this has been a very rewarding experience.

3. Rural orientation: In order to prepare a student for work in the rural areas he must be familiarised during his course with rural conditions, rural culture and traditions and the psychology of villagers. This can be done by:

(i) a study of an Indian Textbook which should be prepared on the lines of the book "Medical care in Developing countries—a symposium from Makerere—Nairobi which is based on African rural conditions.

(ii) Practical training in rural areas for upto 6 months during the clinical years and 3—6 months during the period of internship.

4. The PSM Department which would also be a Public Health or Community health department has a very important role during the clinical years. In addition to the coordinated activities suggested above students should be helped to conduct surveys and studies in the field work areas in nutrition, infant care maternal welfare and in diseases like TB, Cancer, Malnutrition and Diabetes. The students could also be posted in this department for 1-2 months for participating in the above schemes.

(e) Internship:

Finally it is during the period of internship that the young medical graduate will be able to determine how well oriented he is for work in the rural areas—if he is posted in a Primary Health Centre for 3—6 months. In the company of a senior doctor and his colleagues he will get a first hand impression of the type of work in Rural Medical Centres, which will give him a background for possible village work after internship. Each medical college could take over a few primary health centres or start its own rural health centres where such training could be imparted. This programme could be planned out with the Government District Health officer so as to prevent too much overlapping in the health care of particular villages. In this connection the government scheme of supplying 50 bedded mobile hospitals to medical colleges to provide opportunity for rural work is very welcome.

(f) Postgraduation:

According to latest estimates at least 80% of medical graduates go in for higher studies either in the country or abroad. One of the main reasons is that young doctors who qualify have to compete with their seniors who are already well established in the urban areas. Therefore to enter this highly competitive field they feel the need of a postgraduate degree of specialization. If at this stage, however, the government offers certain incentives like "good living and working conditions, vehicle for field work, visits to specialised institutions in the country and abroad and opportunities for professional advancement by way of admission to postgraduate courses after completion of 2-3 years in rural areas". I am sure with the added background of rural orientation during the medical course the majority of our young doctors will opt for the rural areas.

In conclusion it can be said that the crying need of the moment in the field of medical education is to widen the horizon of the student from a severely clinical patient oriented outlook to a wider, socially conscious community outlook and a student symposium such as this is a very constructive step in this direction.

Discussion Chapter

of

A dissertation on

TRAINING DOCTORS for Community Health Services - Trends in Under-graduate Medical Education in India

London University (D.T.P.H. 1973)

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DISCUSSION

Medical education in India is at the crossroads. A time has come for a radical appraisal of the entire system and an assessment whether we are progressing in the right direction.

The post-independence burst of energy lead to a remarkable growth in medical education which was, however, quantative rather than qualitive. The aims and objectives were exalted from the very beginning, and the translation into performance would have been possible, only if all the medical educators and students had been paragons of dedication. By the end of the first decade, it was discovered that the doctor in India would have to be very community oriented and that the hospital oriented system with a dichotomy of preventive and curative services, which we had inherited, would never produce the type of 'basic doctor' we required. A reorientation of the system was, therefore, necessary.

Like the medical profession all over the world we, in India, were still 'traditionalists' and resistant to change, and so the measures taken towards this reorientation were half-hearted and indicate only a partial solution. Volumes of papers and hundreds of speeches were made on the health needs of the village communities, and the need based changes required in the medical curriculum but "imitation of western patterns and anxiety to reach standards acceptable by the western institutions resulted in a blurring of vision tocreate and develop an educational pattern that would fulfill the expectations and needs of the rural societies."

Most universities decided that adding a course in preventive and social medicine and providing time in rural health centres would be adequate measures to give students the required community health orientation. Many departments of preventive and social medicine, however, made pioneering attempts in evolving new concepts of community health training, discussed in a previous chapter, which helped to improve the status of the subject, in the eyes of the students and staff. The clinical departments were slow to respond and many continued to give the students and interns a narrow hospital orientation, in the mistaken belief that the community health orientation of the student

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was the sole responsibility of the preventive and social medicine department. The specialists continued to load the student with unnecessary details of their specialities, patterns of research followed the fashionable and sophisticated pathways of medical research in developing countries and, therefore, the medical colleges continued to produce doctors who preferred the organised and protective health systems of the heopitals, to the challenging task of rural service. Planners and educators appeared surprised at the reluctance of doctors to man the health services in the rural area, and it took them quite a time to realise that the fault was in the educational system, that neither trained nor prepared them for the task and often, actually, interferred with the development of self reliance and confidence required to meet the challenges of rural health centre service in India.

It would interest educators in India to know that the protected development of the undergraduate has gone so far in the British system that the TODD report (1968) made the following interesting observation. "Every doctor who wishes to exercise a substantial measure of independent clinical judgement will be required to have a substantial ~~measure of independent clinical judgement will~~ postgraduate professional training, and the aim of the undergraduate course should be to produce not a finished doctor, but a broadly educated man who become a doctor by further training". It is a moot point, therefore, to consider that having adopted the British system, with subsequent minor alterations, whether we could afford to produce such 'broadly educated men' who could serve the community only after years of further training - for this is the observed result of our present system. Another interesting question that needs to be answered is whether we should reduce the largely futile dependence on expensive over-trained physicians, and experiement with new grades of medical workers. In its approach to the Fifth five-year plan, the planning Commission (1972) states that "The emphasis in rural health will have to be on prevention, family planning, nutrition and detection of early morbidity with adequate arrangements for referral of serious cases to the district hospital. Such a multi-tier system cannot be build on a national scale on the basis of the present expensive system of prolonged medical education. In order to provide an adequate number of doctors for the Fifth plan programme, and as an advance preparation for a more intensive coverage later, it would be necessary to consider the revival of the 3-year medical diploma. Indigenous systems of medicine will also have to be utilised for the purpose."

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The Government has, therefore, aclearly indicated that the training of a new type of doctor through a shorter course is immindent in India. Though the details of such a course are outside the scope of this dissertation, it would be worthwhile to discuss a few principles that could be applied in planning such a course:

1. The most important principle is that the proposed 3- year diploma course should not be a revival of the earlier licentiate course which we abolished at the time of Independence. Since then the medical profession in India has been highly suspicious of attempts to rivieve condensed M.B.B.S. courses and training of of what are often known as 'near doctors' or 'subprofessionals'. The object of the course should be to produce a doctor who is so specifically trained for rural health centre service that he becomes more qualified for that job than the average graduate M.B.B.S. In fact, the 3 - year course should lead to a Bachelor's degree in rural medicine, and not be underrated by calling it a diploma, and making it appear to be a lower qualification.

2. The training of the new cadre of doctors should follow the principles suggested by ROSA (1964):

i) Approach based on local problems
ii) Maximum use of community self help
iii) Training must be in the environment where his future job will be)(Rural health centre)
iv) Broad perspective of rural problems.
v) Efficiency in mass methods of treatment, vaccination and so on.
vi) Appreciation of economy
vii) Strong basis in maternal and child health and principles and practice of health education.
viii) Training should be very practical and realistic. In fact ideally it should be two-thirds practical, and one-third theory.

3. The training of this new cadre should be regionalised and specifically oriented to meet the needs of the peripheral health services in each state. Close cooperation between the medical colleges of the state and the government health services especially the primary health centres and district hospitals should be encouraged.

4. The findings of the Rural Health Research project at Narangwal and the long experiences of many departments of preventive and social medicine in the country, in the organisation and problems of training in a rural health centre setting should be closely studied

before evolving the new diploma course.

5. Such locally - oriented cadres of medical workers have been trained all over the world, and the experience of educators of feldshers in U.S.S.R. peasant doctors in China, physician assistants in U.S.A. (DUKE UNIVERSITY SCHEME) and medical assistants or Health Officers in Fiji, Tanganika Malawi, Sudan, Uganda, Ethiopia, Kenya and Nigeria should be consulted in the planning of the new course. These are described in FENDALL (1972).

6. Selection of students for this course should be carefully done. Stress should be on a rural background, a command of the local language, a familiarity with the people and a commitment to return to the rural area for work. Stipends should be made available to these students during their training, and on completion they must get jobs as close as possible to the areas from which they were selected. The village panchayats could also help in the selection of the right type of students.

7. The content of the course should be practical and realistic. The training must prepare the rural doctor for the three vital functions.

i) To act in a screening capacity and refer to more highly trained professionals, patients in need of greater diagnostic acumen and skills.

ii) To treat visible sickness and cater to simple health requirements such as routine midwifery, simple sanitation, water and housing improvement.

iii) To render emergency medical care.

8) The teaching staff on such a course should consist mainly of health officers and teachers who, themselves, have a personal experience of rural health centre services.

The challenge, put bluntly, is that health services and systems of education must be organised for the good of the people, and not to meet the personal needs of a certain cadre of doctors for material gain or scientific satisfaction and if a shorter course producing a new type of medical worker specifically trained for the rural areas is the answer, then we must have the courage and commitment to go through with the changes required. Only when the needs of the rural areas are met can the claims for'Social Justice' within our constitution be validated.

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It must, however, be remembered in India that the decision to consider a revival of a shorter training course for doctors does not mean that the existing M.B.B.S. course be allowed to containue to develop along western trends. The decision to reorient this course to meet the needs of our expanding community health services, taken many years back, has resulted in many healthy trends attempting to make the course more relevant to our local needs, and this must continue. The product of the system whether he wants to be a general practitioner, public health officer, specialist, teacher or research worker, must be made aware of the local needs of his country, the economic limitations, the sociocultural factors that determine health trends, and the need to develop local knowledge, local technology and local expertise. He must be made to realise that "no matter how useful a heart surgeon may be in the right situation, he is of little value in a country where thousands of infants still succumb every year to infectious diarrhoeas, and it would be far better if his talents had been turned towards a more useful if less spectacular, direction".

The process of making the existing medical education in India more relevant to the country's needs is well under way as described in Chapter 4, but unless these new programmes and methods of teaching are introduced with a degree of urgency into every medical college, the effect of the reorientation will be difficult, to assess. It must be remembered that for such an orientation to be successfull we need staff trained in preventive and social medicine and in the expanding field of community health, and there is an acute sh ortage of such a cadre. Certain principles to be followed in this continuing reorientation should be stressed here.

1. University involvement in health care

Bryant (1971) has said that systems of health care are inseparably linked to the education of health personnal, and these systems cannot change without corresponding changes in education. What is needed in India today is a strong commitment of universities and medical colleges to health care in the surrounding.communities. A medical college must not consider itself a purely academic institution, but must be actively involved in the health of the community. A first step towards this commitment should be the allotment of a primary health centre, and its subcentres to each medical college in India. The college should not

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only use the centre for teaching, but also be responsible for its administration and for the delivery of comprehensive health care to the villages; thus teaching and service become closely linked. Greater involvement in health projects in urban areas like urban slum health schemes, school health services, health of specialised groups in societies such as destitutes, prisoners, industrial workers, could b also be initiated. Finally, a medical college situated in an urban area could be responsible for the total medica care of that region, both urban and the surrounding rural areas.

2. Improvement of standards of teaching and teachers

In India, as in all developing countries, there are acute shortanges of wall trained medical teachers. Most teachers take up teaching because they have been unsuccessful in private practice, or as specialists they feel that contact or association with a medical college improves their status and prestige. Teaching is thus seldom taken up as a vocation. This is unfortunate, since the teacher is a key-figure in the educational process.

1. Teachers must be given a training in the basic principles of education and must know how to produce effective results with the available facilities.

2. They should be full-time so that teaching becomes the main responsibility and not a side issue.

3. In order to get good teachers, the salaries must be improved, and their social status raised. Even the most dedicated teachers can be put off by the present salaries offered in India.

4. The teacher must be, acutely concerned with problems of health care and delivery in India. He cannot pass on a social concern to the medical students he teaches, unless he, himself, is so motivated.

3. Documentation of local knowledge and needs and development of local technology

Any system of education which continues to follow textbooks, primarily written for, and dealing with the needs of a western community, cannot hope to produce students aware of local needs and disease conditions. Textbooks of medicines specially geared to features of disease and measures for treatment prevention and control available in the country are, therefore, urgently required. An Indian medical student, especially if he is expected to serve in the rural areas, must, surely, know more

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about Hookworm Anemia, Amoebiasis, Malaria, Tuberculosis, Leprosy and Malnutrition, than the information given in the textbook of medicine by DAVIDSON. At the same time he need not study, in detail, diseases such as Disseminated Sclerosis or Pernicious Anemia which he seldom sees. A special textbook or manual of medicine to prepare him for rural health centre service on the lines of would be very welcome. Attempts to develop local technology to design and produce medical apparatus and equipment suited to our local needs, budgets and climatic conditions should also be encouraged.

4. Appreciation of economy and effective utilisation of available services and resources

Health is only one of the many priorities in socio-economic development and hence the financial resources available for health care, education and developnebt are limited.

In a developing country, like ours, appreciation of economy and effort to initiate building constructions, and health programme which are realistic, must be stressed. Often due to social and political pressures we are tempted to build large medical colleges and hospitals purely along western standards and designs. Very often these prove to be 'white elephants' which are difficult to staff and administer, but more often not the building takes up the entire budget and so remains unutilised due to shortage of running expenditure. This situation has occurred so often in India that there is an urgent need to ban any further investment on such projects. In a country where the need is great, the quality and extent of care provided is far more important than the aesthetics or size of the institution through which it is given.

"For a proper an d effective utilization of the available resources, it would be necessary to coordinate the activities of the various health institutions in a region. In this way, duplication of effort and wasteful expenditure on personnell and equipment could be avoided". This also means greater utilization a of esisting private and public non-teaching hospitals and medical institutions clinics and dispensary in medical education.

5. General practitioners and General practice.

To meet the health needs in India, there should be a much greater empasis on the production of general practitioners rather than specialists. This can be done by:

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i) Introducing general practice units in hospital out patients, as suggested in Chapter 4.

ii) Involvement of general practitioners of the area in the teaching and training programmes of medical colleges.

iii) Starting of gener al practice speciality or department is every medical college which cou ld coordinate (i) and (ii) and also provide training for all medical graduates interested in taking up general practice.

6. Evaluation

It is necessary to determine the efficacy of many of the earlier suggested changes in the curriculum, on the reorientation of students towards community medicine. Unless these programmes are subjected to well-planned evaluation studies, the effect they have on a student can never be determined. The only known study carried out on rural internship, for instance, is that by. The study revealed that 71% of the interns que stioned thought the rural experience was useful, 69% developed an ability to establish rapport with the villagers, 57% learned to get along with other professional colleagues and auxiliaries, 56% got an understanding of the socio-economic factors in disease, and 50% got a favourable idea of rural life after the three month programme.

7. Motivation of the Medical Profession

All over the world there has been a gradually increasing materialistic orientation of the medical profession. The ideals of service and dedica tion are becoming rarer among the doctors. The outward manifestations of this change are reflected by the shortage of doctors willing to work in rural areas all over the world, by the shortage of doctors willing to work in spedilities like geriatrics, psychiatry, or any field which requires a certain amount of dedication and also in the development of hea lth care system such as in the US.where the treatment one receives depends entirely on how much one can pay; thus a time ha s come when the medical profession must reappraise its own position in society. The young medical stu dent plans his career in the image of his teachers an d elders in th e profession and unless their motivation changes, the hope of produc ing community oriented doctors remains idealistic. However, it is important to keep in mind that the motivation of doctors to work for society in different countries is closely related to the political systems and, therefore, a particular experiment works in a country only if the political system favours it. Finally, it must be remembered that health care and

medical education are only one of the many aspects of the entire life of a country, and the more commensurate they are with the countr's ec onomic, cultural, social and other conditions, the more likely they are to succeed. They also stand a better change of influencing favourably those other conditions. A village health centre is no longer a curative dispensary but a centre providing comprehensive health care which include curative, preventive and rehabilitative measures, environmental health, improved nutrition, housing and recreation; in other words it is a centre involved in the overall imporvement of the life of a community. Therefore, a doctor trained not only to the the head of a health team but must be prepared to be a member of a larger developmental team of, administrators, farmers, engineers, teachers and so on, united together in an effort to improve the conditions of Rural India.

Medical Colleges in India do not prepare medicos for the emotional and professional challenges of rural health care. For many it is their first experience of the harsh realities of life and the inadequacies of our health care system.

The ***Devadasans,*** *a doctor couple, both graduates of the 1980's reflect on their experience in the light of their medical education.*

A View From The Periphery

Dr. Roopa Devadasan
Dr. N. Devadasan
(Accord, Gudalur)

Frankly, sometimes we wonder what prompted us to take the decision- two fresh MBBS graduates with a year's experience after internship and training in CMC-Vellore, with a romantic idea of working in a remote, rural area. It is not easy to remember and relive those first few months in Gudalur, but some scenes are etched forever in one's memory.

Like, walking up to Theppakadu village, a Bettakurumba hamlet next to the tourist lodge in Mudumalai sanctuary. A series of three blackened and broken down bamboo huts. We ask what "happened". The women died in childbirth last year, we are told, and custom demands that their dwelling should be burnt after their death. Three maternal deaths in the space of one year !

Like, riding on the back of a bike at one A.M. through elephant infested forest, soaking wet and bone weary after a village meeting to chose a health worker. Wondering why? Communities can only meet at night and we live 35 km away. And a year later, that same health worker brings to our house at nine p.m. a young woman in obstructed labour. She needs a caesarian section to save her life. What hospital can we take her to ? A night of coaxing and cajoling the Government hospital staff and exhilaration as at 3.30 a.m. after surgery both mother and child are saved. A deep sigh of relief as we transport her home 10 days later; two post operative Caesarian deaths have occurred that month due to sepsis.

A second referral to the same hospital, a young boy of 6 years with probably meningitis. We stand by helplessly while he gets antibiotics to tickle the bacteria - totally inadequate doses. How does one tell a very senior doctor that the dose won't touch him ? Or a nurse, that shouting does not improve a patient's comprehension ? When we decide to transfer him out and take total responsibility, it is too late. Going back to the village with his mortal remains. The tribals are right - only the dead return from hospital.

Our first year was a series of shocks. Medical college did not prepare us for a town which did not have a laboratory to do a cerebrospinal fluid examination, and whose four drug shops do not stock medicines to fight tuberculosis.

Sometimes we had to visit three of the four shops to obtain a complete course of antibiotics. We did not wan to duplicate government and existin medical services; so we doggedl worked at cooperating. But no one ha prepared us for the total apathy an greed around.

- a poor tribal to undergo a belo knee amputation is told to pa Rs. 60-00 for a blade for h surgery.
- the nursing assistant won't chang a soaked dressing until he is pai for his evening booze.
- a young woman has a rupture o the uterus after her thir pregnancy, because of careles management. She has no livin children and will never have on now.
- a District Health Officer wh insists that the immunizatio coverage in our area is 150% ? Sc what if we know whole tribal villages are left out ?

We roped in our old classmate studying for his Master of Surgery in neighbouring Mysore, to help us with surgeries. He told us everywhere it was the same; he had seen in his hospital emergency surgery refused, because the party could not pay.

Slowly the scales began to fall from our eyes.

Today we have 36 trained village level health workers. The budget runs into thousands. That is when we start fumbling and cursing. No one taught us administrative skills, budgeting, time and personnel management. How does one work in isolation in the field of health which is so linked up with all other aspects of life, particularly the economic? Can a patient really pay for his drugs? Therapeutics in college did not include costs, the absolute bottom line as far as the patient goes. The few ideas we have on the "political" implications of health are through an informal friends circle, the MFC, and other experience.

On the positive side, for medical college, they did give us a fair amount of skill in medical and obstetric care. We managed what we could and when referral was impossible we prayed! The very fact that we plunged into a community health project gives credit to our training in that sphere - planning, executing, monitoring came easily because WE HAD DONE IT ALL BEFORE, DURING OUR STUDENT DAYS. I only feel sorry jeep mechanics was not included in the course!

Finally, a lot of people ask us — do you miss not having done a postgraduation yet? In all honesty, I must say Yes because we don't have a course which makes one jack of all trades. A course in general practice, knowing a little of all branches of medicine to manage all kinds of problems. General practice or Family Medicine is the only useful subject worth a postgraduation if you are working on your own in a rural area. Our predominantly rural country does not have the course. Specialisation tends to erase basic knowledge of managing simple cases. Not all of us are meant for teaching hospitals.

Unless they modify the undergraduate course. Anyone listening out there?

The Battle for the Narmada Anti-dam Marchers Camped At Gujarat Border

Over eight thousand people, a large number of them tribal people on a protest march to the Sardar Sarovar dam were stopped at Ferkuva and prevented from proceeding to the dam. The march called the **"Jan Vikas Sangarsha Yatra"** (March for People-Oriented Development) set out from Rajghat on the banks of the river Narmada last Christmas day, reached the border on the 31st December, 1990; and are camping there ever since. Since 4th January, seven people including Ms. Medha Patkar of the Narmada Bachao Andolan (Movement To Save Narmada) are on an indefinite fast. The anti-dam marchers are demanding a comprehensive review of the project and a stay on the construction pending such a review.

Renowned social worker Dr. Baba Amte, recipient of the Magsasay and Tempelton Awards for his work among leprosy patients, who is accompanying the march is also on an indefinite protest sit-in at the Gujarat border.

The Sangarsha Yatra began with around 2,500 people, including a large number of women from the villages to be submerged by the Sardar Sarovar project at Rajghat in Madhya Pradesh on 25th December last year. Amidst the clanging of bells, blowing of conch shells the marchers took a pledge not to return home till they had achieved their objective of stopping the dam. Over hundred representatives of mass organisations and NGO s from all over the country were with the march. A four member delegation from the Friends of the Earth, Japan also joined the Yatra.

Travelling on an average of 20 km per day, carrying their own food and fuel the marchers camped during the nights in villages on their way. They held meeting to explain their demands and were joined by many more people. The Yatra had swelled to about 4000 people by the time they reached Alirajpur on the 29th December, about 24 km from the border and 120 km from the dam site.

The Yatra received a rousing welcome from the residents of the town Alirajpur. Over 1000 tribal people from the areas to be submerged by the dam in Madhya Pradesh, Maharashtra and Gujarat, who had trekked over 200 km of rough hilly terrain joined the Yatra. Several more representatives of mass organisations from all over the country also joined the march at Alirajpur.

In the face of threats from the Gujarat government and the fact that a massive rally organised by the pro-dam people across the border had threatened to form a human chain and prevent the anti-dam Yatra from entering Gujarat. The Yatra set out the next day and reached Ferkuva, on the inter-state border between Gujarat and Madhya Pradesh on the morning of 31st December, to be stopped by armed police and para-military forces. A small group of pro-dam rally was also present to shout abuses at the marchers.

Chapter - 7.

DISCUSSION.

Medical education in India is at the crossroads. A time has come for a radical appraisal of the entire system and an assessment whether we are progressing in the right direction.

The post-independence burst of energy lead to a remarkable growth in medical education which was, however, quantative rather than qualitive. The aims and objectives were exalted from the very beginning, and the translation into performance would have been possible, only if all the medical educators and students had been paragons of dedication . (TAYLOR, 1970). By the end of the first decade, it was discovered that the doctor in India would have to be very community-oriented and that the hospital oriented system with a dichotomy of preventive and curative services, which we had inherited, would never produce the type of 'basic doctor' we required. A reorientation of the system was, therefore, necessary.

Like the medical profession all over the world we, in India, were still 'traditionalists' and resistant to change, and so the measures taken towards this reorientation were half-hearted and indicate only a partial solution. Volumes of papers and hundreds of speeches were made on the health needs of the village communities, and the need based changes required in the medical curriculum but "imitation of western patterns and anxiety to reach standards acceptable by the western institutions resulted in a blurring of vision to create and develop an educational pattern that would fulfill the expectations and needs of the rural societies (WHO, 1966c).

Most universities decided that adding a course in preventive and social medicine and providing time in rural health centres would be adequate measures to give students the required community health orientation. Many departments of preventive and social medicine, however, made pioneering attempts in evolving new concepts of community health training, discussed in a previous chapter, which helped to improve the status of the subject, in the eyes of the students and staff. The clinical departments were slow to respond and many continued to give the students a narrow hospital orientation, in the mistaken belief that the community health orientation of the student was the sole responsibility of the preventive and social medicine department. The specialists continued to load the student with unnecessary details of their specialities, patterns of research followed the fashionable and sophisticated pathways of medical research in developing countries and, therefore, the medical colleges continued to produce doctors who preferred the organised and protective health systems of the hospitals, to the challenging task of rural service. Planners and educators appeared surprised at the reluctance of doctors to man the health services in the rural area, and it took them quite a time to realise that the fault was in the educational system, that neither trained nor prepared them for the task and often, actually, interferred with the development of self reliance and confidence required to meet the challenges of rural health centre service in India.

It would interest educators in India to know that the protected development of the undergraduate has gone so far in the British system that the TODD report (1968) made the following interesting observation. " Every doctor who wishes to exercise a substantial measure of independent clinical judgement will be required to have a substantial postgraduate professional training, and the aim of the undergraduate course should be to produce not a finished doctor, but a broadly educated man who can become a doctor by further training" . It is a moot point, therefore, to consider that having adopted the British system, with subsequent minor alterations, whether we could afford to produce such 'broadly educated men' who could serve the community only after years of further training - for this is the observed result of our present system. Another interesting question that needs to be answered is whether we should reduce the largely futile dependence on expensive over-trained physicians, and experiment with new grades of medical workers. In its approach to the Fifth five-year plan, the Planning Commission (1972) states that "The emphasis in rural health will have to be on prevention, family planning, nutrition and detection of early morbidity with adequate arrangements for referral of serious cases to the district hospital. Such a multi-tier system cannot be built on a national scale on the basis of the present expensive system of prolonged medical education. In order to provide an adequate number of doctors for the Fifth plan programme, and as an advance preparation for a more intensive coverage later, it would be necessary to consider the revival of the 3-year medical diploma. Indigenous systems of medicine will also have to be utilised for the purpose."

The Government has, therefore, clearly indicated that the training of a new type of doctor through a shorter course is immindent in India. Though the details of such a course are outside the scope of this dissertation, it would be worthwhile to discuss a few principles that could be applied in planning such a course:

1. The most important principle is that the proposed 3 - year diploma course should not be a revival of the earlier licentiate course which we abolished at the time of Independence. Since then the medical profession in India has been highly suspicious of attempts to revieve condensed M.B.B.S. courses and training of what are often known as 'near doctors' or 'subprofessionals'. The object of the course should be to produce a doctor who is so specifically trained for rural health centre service that he becomes more qualified for that job than the average graduate M.B.B.S. In fact, the 3 - year course should lead to a Bachelor's degree in rural medicine, and not be underrated by calling it a diploma, and making it appear to be a lower qualification.
2. The training of the new cadre of doctors should follow the principles suggested by ROSA (1964):

i) Approach based on local problems.
ii) Maximum use of community self help.
iii) Training must be in the environment where his future job will be (Rural health centre)
iv) Broad perspective of rural problems.
v) Efficiency in mass methods of treatment, vaccination and so on.
vi) Appreciation of economy.
vii) Strong basis in maternal and child health and principles and practice of health education.
viii) Training should be very practical and realistic . In fact ideally it should be two-thirds practical, and one-third theory.

3. The training of this new cadre should be regionalised and specifically oriented to meet the needs of the peripheral health services in each state. Close cooperation between the medical colleges of the state and the government health services especially the primary health centres and district hospitals should be encouraged.

4. The findings of the Rural Health Research project at Narangwal (TAKULIA et al, 1967) and the long experiences of many departments of preventive and social medicine in the country, in the organisation and problems of training in a rural health centre setting should be closely studied before evolving the new diploma course.

5. Such locally- oriented cadres of medical workers have been trained all over the world, and the experience of educators of feldshers in U.S.S.R. peasant doctors in China, physician assistants in U.S.A. (DUKE UNIVERSITY SCHEME) and medical assistants or Health Officers in Fiji, Tanzania, Malawi, Sudan, Uganda, Ethiopia, Kenya and Nigeria should be consulted in the planning of the new course. These are described in FENDALL (1972) GISH (ed),1971), KING (1966) BRYANT (1969) TITMUSS (1964) and WADDY (1963).

6. Selection of students for this course should be carefully done.

Stress should be on a rural background, a command of the local language, a familiarity with the people and a commitment to return to the rural area for work. Stipends should be made available to these students during their training, and on completion they must get jobs as close as possible to the areas from which they were selected. The village panchayats could also help in the selection of the right type of students.

7. The content of the course should be practical and realistic. The training must prepare the rural doctor for the three vital functions (FENDALL, 1971):

i) To act in a screening capacity and refer to more highly trained professionals, patients in need of greater diagnostic acumen and skills.

ii) To treat visible sickness and cater to simple health requirements such as routine midwifery, simple sanitation, water and housing improvement.

iii) To render emergency medical care.

8. The teaching staff on such a course should consist mainly of health officers and teachers who, themselves, have a personal experience of rural health centre services.

The challenge, put bluntly, is that health services and systems of education must be organised for the good of the people, and not to meet the personal needs of a certain cadre of doctors for material gain or scientific satisfaction (TAYLOR 1970) and if a shorter course producing a new type of medical worker specifically trained for the rural areas is the answer, then we must have the courage and commitment to go through with the changes required.

only when the needs of the rural areas are met can the claims for Social Justice' within our constitution be Validated.

It must, however, be remembered in India that the decision to consider a revival of a shorter training course for doctors does not mean that the existing M.B.B.S. course be allowed to continue to develop along western trends. The decision to reorient this course to meet the needs of our expanding community health services, taken many years back, has resulted in many healthy trends attempting to make the course more relevant to our local needs, and this must continue. The product of the system whether he wants to be a general practitioner, public health officer, specialist, teacher or research worker, must be made aware of the local needs of his country, the economic limitations, the socio-cultural factors that determine health trends, and the need to develop local knowledge, local technology and local expertise. He must be made to realise that "no matter how useful a heart surgeon may be in the right situation, he is of little value in a country where thousands of infants still succumb every year to infectious diarrhoeas, and it would be far better if his talents had been turned towards a more useful, if less spectacular, direction". (MARGUILES, 1966).

The process of making the existing medical education in India more relevant to the country's needs is well under way as described in Chapter 4, but unless these new programmes and methods of teaching are introduced with a degree of urgency into every medical college, the effect of the reorientation will be difficult to assess. It must be remembered that for such an orientation to be successful we need staff trained in preventive and social medicine and in the expanding field of community health, and there is an acute shortage of such a cadre. Certain principles to be followed in this continuing reorientation should be stressed here.

1. University involvement in health care

Bryant (1971) has said that systems of health care are inseparably linked to the education of health personnel, and these systems cannot change without corresponding changes in education. What is needed in India today is a strong commitment of universities and medical colleges to health care in the surrounding communities. A medical college must not consider itself a purely academic institution, but must be actively involved in the health of the community. A first step towards this commitment should be the allotment of a primary health centre, and its subcentres to each medical college in India. The college should not only use the centre for teaching, but also be responsible for its administration and for the delivery of comprehensive health care to the villages; thus teaching and service become closely linked. Greater involvement in health projects in urban areas like urban slum health schemes, school health services, health of specialised groups in societies such as destitutes, prisoners, industrial workers, could also be initiated. Finally, a medical college situated in an urban area could be responsible for the total medical care of that region, both urban and the surrounding rural areas.

2. Improvement of standards of teaching and teachers

In India, as in all developing countries, there are acute shortages of well trained medical teachers. Most teachers take up teaching because they have been unsuccesaful in private practice, or as specialists they feel that contact or association with a medical college improves their status and prestige. Teaching is thus seldom taken up as a vocation. This is unfortunate, since the teacher is a key-figure in the educational process.

Medical teaching in India can be improved, only if the following measures are taken:

1. Teachers must be given a training in the basic principles of education and must know how to produce effective results with the available facilities.
2. They should be full-time so that teaching becomes the main responsibility and not a side issue.
3. In order to get good teachers, the salaries must be improved, and their social status raised. Even the most dedicated teachers can be put off by the present salaries offered in India.
4. The teacher must be, himself, aware of the needs of the community, and must be acutely concerned with problems of health care and delivery in India. He cannot pass on a social concern to the medical students he teaches, unless he, himself, is so motivated.

3. <u>Documentation of local knowledge and needs and development of local technology.</u>

Any system of education which continues to follow textbooks, primarily written for, and dealing with the needs of a western community, cannot hope to produce students aware of local needs and disease conditions. Textbooks of medicines specially geared to features of disease and measures for treatment prevention and control available in the country are, therefore, urgently required. An Indian medical student, especially if he is expected to serve in the rural areas, must, surely, know more about Hookworm Anemia, Amoebiasis, Malaria, Tuberculosis, Leprosy and Malnutrition, than the information given in the textbook of medicine by DAVIDSON. At the same time he need not study, in detail, diseases such as Disseminated Sclerosis or Pernicious Anemia which he seldom sees. A special textbook or manual of medicine to prepare him for rural health centre service on the lines of KING (1966) would be very welcome. Attempts to develop local technology to design and produce medical apparatus and equipment suited to our local needs, budgets and climatic conditions should also be encouraged.

4. <u>Appreciation of economy and effective utilisation of available services and resources.</u>

Health is only one of the many priorities in socio-economic development and hence the financial resources available for health care, education and development are limited.

In a developing country, like ours, appreciation of economy and and effort to initiate building constructions, and health programme which are realistic, must be stressed. Often due to social and political pressures we are tempted to build large medical colleges and hospitals purely along western standards and designs. Very often these prove to be 'white elephants' which are difficult to staff and administer, but more often than not the building takes up the entire budget and so remains unutilised due to shortage of running expenditure. This situation has occurred so often in India that there is an urgent need to ban any further investment on such projects. In a country where the need is great, the quality and extent of care provided is far more important than the aesthetics or size of the institution through which it is given.

"For a proper and effective utilization of the available resources, it would be necessary to coordinate the activities of the various health institutions in a region. In this way, duplication of effort and wasteful expenditure on personnell and equipment could be avoided" (MONTEIRO, 1970). This also means greater utilization of existing private and public non-teaching hospitals and medical institutions, clinics and dispensary in medical education.

5. General Practitioners and General Practice.

To meet the health needs in India, there should be a much greater emphasis on the production of general practitioners rather than specialists. This can be done by:

i) Introducing general practice units in hospital out-patients, as suggested in Chapter 4.

ii) Involvement of general practitioners of the area in the teaching and training programmes of medical colleges. (MONTEIRO, 1970).

iii) Starting of a general practice speciality or department in every medical college which could coordinate (i) and (ii) and also provide training for all medical graduates interested in taking up general practice.

6. Evaluation

It is necessary to determine the efficacy of many of the earlier suggested changes in the curriculum, on the reorientation of students towards community medicine. Unless these programmes are subjected to well-planned evaluation studies, the effect they have on a student can never be determined. The only known study carried out on rural internship, for instance, is that by TAYLOR (1966). The study revealed that 71% of the interns questioned thought the rural experience was useful, 69% developed an ability to establish rapport with the villagers, 57% learned to get along with other professional colleagues and auxiliaries, 56% got an understanding of the socio-economic factors in disease, and 50% got a favourable idea of rural life after the three month programme.

7. Motivation of the Medical Profession

All over the world there has been a gradually increasing materialistic orientation of the medical profession. The ideals of service and dedication are becoming rarer among the doctors. The outward manifestations of this change are reflected by the shortage of doctors willing to work in rural areas all over the world, by the shortage of doctors willing to work in specialities like geriatrics, psychiatry, or any field which requires a certain amount of dedication and also in the development of health care systems such as in the U.S. where the treatment one receives depends entirely on how much one can pay; thus a time has come when the medical profession must reappraise its own position in society. The young medical student plans his career in the image of his teachers and elders in the profession and unless their motivation changes, the hope of producing community oriented doctors remains idealistic. However, it is important to keep in mind that the motivation of doctors to work for society in different countries is closely related to the political systems and, therefore, a particular experiment works in a country only if the political system favours it. Finally, it must be remembered that health care and medical education are only one of the many aspects of the entire life of a country, and the more commensurate they are with the country's economic, cultural, social and other conditions, the more likely

they are to succeed. They also stand a better chance of influencing favourably those other conditions. A village health centre is no longer a curative dispensary but a centre providing comprehensive health care which includes curative, preventive and rehabilitative measures, environmental health, improved nutrition, housing and recreation; in other words it is a centre involved in the overall improvement of the life of a community. Therefore, a doctor trained not only to be the head of a health team but must be prepared to be a member of a larger developmental team of, administrators, farmers, engineers, teachers and so on, united together in an effort to improve the conditions of Rural India.

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Profile of Filariasis Problem

Now that phenomenal success has been attained in the conquest of malaria, filariasis remains as the insect-borne disease of major public importance. Unlike the epidemic explosions occurring dramatically due to spectacular diseases like smallpox, cholera, etc., filariasis seldom shoots up to the banner headline of newspapers. This lack of journalistic value or dramatic flavour, however, seems to be more than compensated by its relentlessly crippling design as a mass producer of incapacity and disabilities, thus exacting a devastating economic toll in areas where it is endemic.

Stoll[1] in 1947 considered one third of world population filaria infested. According to a recent estimate[2], about one billion people in tropical and subtropical countries are exposed to risk of exposure, and at least 200 million people bear filarial stigmata of varying grades of severity including grotesque deformities. About 122 million people in India live exposed to active transmission of the disease, as revealed by a national survey[3] carried out more than a decade ago. There is every reason to suspect that the situation is worse today. Newer foci of filarial infection in India are being disclosed as suggested by the survey report[4] published elsewhere in this issue of the Journal. It is, indeed, disquieting that global filariasis is on the increase at a disturbing rate defying obstinately all that we could do to cry a halt. Measures and resources at our disposal proved inadequate in quality as well as in quantity to match the magnitude of the problem. Spread of the disease in recent years has been further accelerated by rapid and indiscriminate urbanisation with scant regard for environmental sanitation in many of the developing countries.

Filariasis continues to be a formidable challenge with many of its facets remaining only ill understood. There is much to be desired in our understanding of the causative organisms and their pathogenic potential, the vectors and their efficiency in transmitting the infection, the hosts and their susceptibility to acquire the infection, and above all, the dynamic interaction of the triumvirate. Mechanism of disease-production requiring clearer elucidation, onset of disease, its course and severity in the infected individuals remain uncertain and unpredictable. Clinical expression of filariasis will not be explained satisfactorily until we can define and quantitate host reaction in response to filarial infection, particularly the nature and extent of immune response which would seem to influence the resultant morbidity. Want of suitable experimental model in laboratory animals, specially with regards to bancroftial filariasis, has severely restricted the progress of study in this field. It has not been possible to pinpoint the factors that operate alone or in combination to determine vulnerability of man to the infection and development of morbid changes in consequence. However, increasing amount of evidences recorded in recent years make it distinctly possible that acquired immune status in individuals and in communities plays a pivotal role in shaping to a large extent the spectrum of clinical events and the impact of filariasis in the population. It is now reasonable to suspect that pathogenesis of the disease has a basis of immuno-allergic mechanism. The nature of morbidity and its recurrent character tend to suggest a selective response of sensitised host tissue to immunogenic insult of repetitive kind. Observations are on record[5, 6] to show that immune response in the host runs parallel to an increase in mast cell population, histamine content and eosinophilic assemblage in the affected tissue. *In vitro* experiments[7] suggested that adhesion of eosinophilic leucocytes around infective filarial larvae is probably mediated through immune mechanism. Occult filariasis causing tropical eosinophilia provides a classical example, which represents a state of immunologic intolerance towards unadapted or incompletely adapted parasites or immune hypersensitive reaction in a sensitised host following repeated exposure to assault from an adapted parasite[8]. The phenomenon of immune hypersensitivity may indeed be of great importance in pathogenesis of filariasis. However, immune reactions in response of filarial infection are yet to be characterised fully and we do not precisely know when and under what circumstances these occur, when the peak is reached and how long do these last. Far less is known about the degree of protection, if at all, immune reactions are able to induce

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against re-infection. Higher antibody level was detected[9] with the help of fluorescent antibody test in patients with advanced stage of filariasis and without microfilariaemia compared with that in subjects showing microfilariae in peripheral blood and without gross clinical signs.

Diagnosis of filariasis still remains only a clinical assumption in the absence of demonstrable microfilariaemia. Immunobiological tests employed so far are not free from limitations. Source of errors lies primarily with the quality of antigens used, whose sensitivity and specificity could not be considered unassailable. Possibility of cross reaction in individuals with multiple helminthic infections, present or past, complicates the situation. Antigen prepared from homologous source has been found superior to that from heterologous sources for immunodiagnosis of filariasis[10]. Quantitative studies[11] on immunoglobulins, IgG, IgA, and IgM did not suggest diagnostic increase of any of these in patients with different stages of filariasis. The need for a dependable diagnostic method, therefore, cannot be overemphasised. Nevertheless, active efforts put and progress made in recent years hold a reasonable hope of success at a future not far off.

Treatment of filariasis is less than satisfactory. None of the drugs available is adequate for the purpose. Despite remarkable antimicrofilarial properties the drug, diethylcarbamazine is of doubtful value to ensure a clinical cure. Expected microfilarial clearance with this drug is incomplete at times even after adequate treatment, when residual microfilariaemia continues to show drug indifference regardless of the amount of drug used. Opportunities of re-infection occurring with great ease in endemic areas pose a serious problem in the absence of any drug able to prevent it. Firmly established tissue changes in filariasis are more often than not irreversible and found refractory to all known therapeutic agents. Drugs have been used in filariasis whose toxicity outweighs their usefulness.

Most disappointing is the outcome of our endeavour so far to control filariasis and prevent its spread. Needless to mention, the task is unlikely to be accomplished until effective remedies are available to counter the parasites and vectors in all stages of their development. It will however be necessary to understand transmission dynamics of the infection operating in an area, before the strategy can be formulated aiming to interrupt the transmission. Knowledge about bionomics of involved vectors is of paramount importance for this purpose. Necessary information about vector population should include their taxonomy, genetics, susceptibility to infection, ability to support or promote parasitic development, mortality, resistance to insecticides, etc. Studies on infection and infectivity rates in vectors along with vector and biting densities will disclose the expected risk of human exposure. It is only obvious that transmission success depends in no small measure on prevalence and density of microfilaria in the population which reflect the status of endemicity in an area. Here again the role of immune status in regulating the level of microfilariaemia remains to be known. It has also been suggested that state of microfilariaemia in the population is not unrelated to distribution of age and sex[12].

Attempts have been made to develop quantitative model on the basis of microfilarial density in the population that can serve as a measure to compare extent of endemicity in two different areas or in the same area at different times[13]. On the basis of observation[14, 15] a useful formula for this purpose has been suggested that the frequency distribution of microfilarial counts of the positive cases were roughly lognormal, and that there always existed linear regressions between the probits of cumulative percentages of the positive cases plotted on y-axis and the logarithms of microfilarial counts on x-axis. Epidemiological investigation provides basic information necessary for control measures to be formulated. It is trite to mention that epidemiological studies without a quantitative approach and rigid adherence to standard methodology do not permit any valid inference[16]. What is more, information however well drawn will cease to be meaningful with the changes in ecological circumstances. Epidemiological deduction for a given area will, therefore, be in need of revision in the light of changes occurring in human ecology and vector bionomics with the passage of time. Continued system of evaluation may also suggest necessary changes in the choice of epidemiologic tools and methods.

It is important to realise that while with better application of what we already know our success may be greater than we have achieved so far in the control of filariasis, ultimate success is only possible through our efforts to know what we do not yet know.

A. B. CHOWDHURY

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[15] *Idem*—*Bull. W.H.O.*, **37**: 629, 1967.
[16] Editorial—*J. Indian M. A.*, **48**: 446, 1976.

MEP 86 - 10

(2) REORIENTING OF MEDICAL EDUCATION FOR COMMUNITY HEALTH SERVICES (from Medical Education Committee Report 1970)

B P PATEL
Secretary, Ministry of Health & Family Planning, Government of India, New Delhi

Recommendations

1. Definition of 'Basic Doctor' : See mfc bulletin 97-98.

2. Measures to encourage doctors to goto villages:

   i. provision of adequate living and working accommodation in villages with modern sanitary facilities

   ii. supply of vehicles to PHC

   iii. prescription of minimum service in rural areas before crossing efficiency bar or grant of promotions

   iv. special medical allowance for service in difficult areas

   v. opportunities for refresher and advanced training in India and abroad

   vi. professional contacts through visits of specialists to such centres.

3. No revival of licentiate or diploma course.

4. Entrance qualifications:

   i. 13 years prior education before MBBS course

   ii. Premedical course should comprise Physics, Chemistry, Biology, Basic Mathematics in relation to Physics language and Social Sciences. Atleast 2 years.

   iii. course should be science colleges affiliated to universities.

5. Admission requirements: Universities in a State should evolve a common and uniform qualifying examination for entry into medical colleges.

6. A study to suggest a balanced supply of basic doctors and specialists within the limitations of finances to meet our needs.

7. Duration and curriculum of MBBS Course.

   a) 4½ years - 18 months preclinical and 36 months paraclinical and clinical instruction to be followed by compulsory internship for one year--atleast 3 months in rural surroundings.

   b) Improve quality of teaching by using suggested curriculum, methods of assessment and examination, encouragement of research and teaching methods.

.....2

c) Emphasise teaching of health promotion, growth and development, nutrition immunization, health education, family planning, school health services, routine check ups and environmental sanitation.

d) PSM should form integral part of MBBS and marks obtained in this discipline ranked equal to those of other disciplines for award of MBBS degree.

e) General practitioners of experience and standing should be associated with education/training of undergraduates.

8. Methods of teaching:

Reduce didactic lectures and encourage seminars, group discussions and clinico-pathological conference.

9. Examinations

25 percent of total marks allocated for university examination should be earmarked for internal assessment.

10. More mobile training cum service units (Chittaranjan mobile hospitals) to be attached to medical colleges. Senior teachers to provide service facilities in respective rural field practice areas.

11. Medicum of instruction: English to continue.

12. National integration:

5-10 percent of seats in medical colleges to be reserved for candidates from other states.

13. Reservations:

Continue practice of 5% reservation of SC/ST candidates. Allot 5% reservation for candidates who undertake to serve in rural areas.

14. Participation of Medical Profession:

Need for entire gamut of medical profession (Professors, elders and leaders especially) to undergo corresponding transformation in concern for health care in rural areas.

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(3) REPORT OF THE GROUP ON MEDICAL EDUCATION AND SUPPORT MANPOWER (SRIVASTAVA COMMITTEE 1975).

Main recommendations

1. To stop increase in medical colleges and admissions

2. To generate a manpower policy along scientific lines on a national basis.

3. To evolve a national system of medicine by integrating modern and indigenous systems of medicine

4. to establish a medical and health education commission to implement needed reforms

5. Medical curriculum should be reoriented as follows:

   a) Frame work of natural sciences, humanities and social sciences in pre medical education.

   b) Community medicine - joint endeavour of whole faculty not only PSM...

   c) Rural and urban field practice areas with active health service programmes...

   d) Principles of educational sciences in curriculum especially self-learning and small group techniques....

   e) Appropriate preparation of teachers and production of effecti e teaching/learning materials...

   f) Reform of hospitals attached to medical colleges

   g) reducing duration by 6 months to a year.

   h) Training of interns in district/sub-divisional /Taluka/Tehsil hospitals not the teaching hospital...

   i) Continuing education of all doctors after graduation as joint activity of medical college, the professional associations and the health services....

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(4) HEALTH FOR ALL - AN ALTERNATIVE STRATEGY (1981)

Recommendations on Medical Education

1. Greater emphasis on cultural/social/moral aspects of medical actions/purposes.

2. No need to over emphasise high technology

3. Continous effort to evolve simpler technologies.

4. Training on social/cultural economic profile of people.

5. Large base of primary health care

6. Regional health care:

   - preventive/promotive/curative problems/solutions identified at each level
   - skills/facilities at each level.

7. Personnel--specific training

   - over education is counter productive.

8. Man and environment to be presented as a biocultural science. Interdisciplinary holistic approach.

9. More practical curriculum

   - morbid anatomy
   - surgery
   - rare diseases

10. Skill development

    - surgical/orthopedic
      anaesthetic

11. Health team concept

12. Sociology
    Human behaviour
    social/political structure of society

13. Practical field oriented training in

    - epidemiology;
    - health education.

14. Management of health services

    - cost effectiveness
    - logistics
    - personnel management
    - methods of purchase and accounting
    - medical audit
    - basic knowledge of vehicles.

15. Empathy with people

    (i) selection of people closer to poor and underprivileged groups

    (ii) training process should not alienate.

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16. District health care

17. Remuneration of doctors

18. Reduce over emphasis on post-graduation

19. Continous education

    i. courses;
    ii. inservice training;
    iii. library facilities;
    iv. disseminator of information/circular/newsletter

20. National orientation

    a. Ashram concept of life
    b. non-consumerist approach
    c. community/individual responsibility in health care
    d. yoga
    e. herbal medicines
       Ayurveda

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for Medical Edu: Resource file
Gender-Aspects

PC-SPIRS 3.40 MEDLINE (R) 1/96-1/97

1 of 9
Marked Record

TI: Gender differences in medical school attrition rates, 1973-1992.
AU: Fitzpatrick-KM; Wright-MP
AD: University of Alabama at Birmingham, USA.
SO: J-Am-Med-Womens-Assoc. 1995 Nov-Dec; 50(6): 204-6
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: Retention is a critical problem in medical school education. We report here on research that examined gender differences in attrition rates between 1973 and 1992. Using secondary data compiled from the annual reports on undergraduate education published in JAMA, both descriptive and inferential analyses of medical school attrition rates were conducted. Data show that medical school attrition rates have steadily increased across the country since 1973 and that women drop out of medical school at consistently greater rates than men. These results highlight the importance of future analyses that attempt to delineate the causes as well as the consequences of dropping out of medical school for women and the institutions that support them.

2 of 9
Marked Record

TI: [Women in the medical profession in Israel]
AU: Notzer-N; Brown-S
AD: Medical Education Unit, Sackler Faculty of Medicine, Tel Aviv Univerity.
SO: Harefuah. 1995 Dec 1; 129(11): 449-51, 536
this source is not Available in S.J.M.C.Library
LA: HEBREW; NON-ENGLISH
AB: This paper describes the current status of women physicians in Israel at various stages in their professional careers: in medical school, in the medical specialties and in academia. In the past, as in most western countries, medicine in Israel was regarded as a man's profession. The last decade has seen major demographic changes: the proportion of women entering medical school is now similar to that of men, and as a result of immigration from the former Soviet Union, the percentage of women physicians is approaching the level in eastern European countries. Recent findings show an increase in women in all specialty areas. However, they are concentrated in the lower status strata and in primary care, occupying the base of the academic pyramid. It appears that when objective criteria are employed, such as for admission to medical school and licensing examinations, women and men have similar levels of achievement. However, when subjective criteria are used, such as in admission to residency training, gender-based differences in distribution in the medical specialties are apparent. We suggest implementing objective standards for acceptance for residency training which should help equalize the status of women in the Israeli medical establishment.

3 of 9
Marked Record

TI: An assessment of stress among clinical medical students of the University of the West Indies, Mona Campus.
AU: Foster-Williams-K; Thomas-P; Gordon-A; Williams-Brown-S
AD: University Health Centre, University of the West Indies, Jamaica.
SO: West-Indian-Med-J. 1996 Jun; 45(2): 51-4
this source is not Available in S.J.M.C.Library

LA: ENGLISH
AB: This study looks at sources of stress among the medical students of the University of the West Indies at the Mona campus. Students of the classes 1993 through 1995 were asked to fill out a questionnaire which had been developed for a similar study at the University of Texas in 1983. The return rate was 66%. The results were compared for differences between males and females and between the different year groups. The two most stressful items were rated the same by men and women, i.e., 1) the amount of material to be learned, and 2) examinations and/or grades. There was no statistically significant difference between stress levels by gender in this study. The penultimate clinical year was most stressful. It is hoped that the findings of this study will be the basis for discussion about whether the identified stressors are inherent and necessary to the medical training experience and, if so, how students can be better prepared to cope with them.

4 of 9
Marked Record

TI: The feminization of the medical profession in Israel.
AU: Notzer-N; Brown-S
AD: Unit of Medical Education, Tel Aviv University, Israel.
SO: Med-Educ. 1995 Sep; 29(5): 377-81
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH
AB: Two factors have caused major changes in the gender composition of the Israeli medical profession in recent years: (i) a wave of immigration from the former USSR, which increased the doctor population by approximately 70% and which included a majority of women physicians, and (ii) the entry of more Israeli women into medical school. This report presents the current gender status of the Israeli medical profession, regarding students and physicians, and the choice of medical specialty and academic seniority, and compares gender differences in Israel with those in other countries. Traditional patterns of specialization persist in Israel, with women still concentrated in primary care (family medicine, paediatrics and psychiatry). In addition, women still face obstacles in entering the more prestigious (mainly surgical) specialties. Whilst the number of women in academic medicine has increased over the last decade, women are still concentrated in the lowest echelons of academic medicine. However, the steady trend towards the feminization of medicine will inevitably lead to an increase of women in all areas of the medical profession. Because cross-cultural studies have repeatedly revealed that women doctors have a more humanistic and personalized approach to patient care, a higher ratio of women in the profession should have a qualitative effect in this direction, despite the bureaucratic and fiscal constraints incumbent upon practising doctors. As more women become role models for medical students, their approach will influence the education of the doctors of the future.

5 of 9
Marked Record

TI: Is registrarship a different experience for women?
AU: Saloojee-H; Rothberg-AD
AD: Department of Paediatrics and Child Health, University of the Witwatersand, Johannesburg.
SO: S-Afr-Med-J. 1996 Mar; 86(3): 253-7
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: OBJECTIVE: To determine differences between male and female registrars in their subjective perceptions and experience of a paediatrics registrar training programme. DESIGN: Cross-sectional survey. 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 criticised 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.

6 of 9
Marked Record

TI: Abuse of residents: it's time to take action [editorial; comment]
AU: Myers-MF
SO: Can-Med-Assoc-J. 1996 Jun 1; 154(11): 1705-8
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: The scientific study of the sexual dynamics that come into play during residency training seems to both fascinate and repel trainees and their supervisors. One of the more provocative and shameful dimensions of this area of inquiry, the abuse of residents, causes a good deal of distress. How do we respond to findings of significant psychological abuse, discrimination on the basis of sex or sexual orientation and sexual harassment in medical settings? How can we ignore over a decade of research? How can we not heed the experience of so many young physicians? Given the uncertain times in Canadian medicine and the insecurity in our professional and personal lives, we must work together to improve the culture of our teaching institutions and implement measures nationally and locally to close this dark chapter.

7 of 9
Marked Record

TI: Residents' experiences of abuse, discrimination and sexual harassment during residency training. McMaster University Residency Training Programs [see comments]
AU: Cook-DJ; Liutkus-JF; Risdon-CL; Griffith-LE; Guyatt-GH; Walter-SD
AD: Department of Medicine, McMaster University Faculty of Health Sciences, Hamilton, Ont.
SO: Can-Med-Assoc-J. 1996 Jun 1; 154(11): 1657-65
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: OBJECTIVE: To assess the prevalence of psychological abuse, physical assault, and discrimination on the basis of gender and sexual orientation, and to examine the prevalence and impact of sexual harassment in residency training programs. DESIGN: Self-administered questionnaire. SETTING: McMaster University, Hamilton, Ont. PARTICIPANTS: Residents in seven residency training programs during the academic year from July 1993 to June 1994. Of 225 residents 186 (82.7%) returned a completed questionnaire, and 50% of the respondents were women. OUTCOME MEASURES: Prevalence of psychological abuse, physical assault and discrimination on the basis of gender and sexual orientation experienced by residents during medical training, prevalence and residents' perceived frequency of sexual harassment. RESULTS: Psychological abuse was reported by 50% of the residents. Some of the respondents reported physical assault, mostly by patients and their family members (14.7% reported assaults by male patients and family members, 9.8% reported assaults by female patients and family

members), 5.4% of the female respondents reported assault by male supervising physicians. Discrimination on the basis of gender was reported to be common and was experienced significantly more often by female residents than by male residents ($p < 0.01$). Ten respondents, all female, reported having experienced discrimination on the basis of their sexual orientation. Most of the respondents experienced sexual harassment, especially in the form of sexist jokes, flirtation and unwanted compliments on their dress or figure. On average, 40% of the respondents, especially women ($p < 0.01$), reported experiencing offensive body language and receiving sexist teaching material and unwanted compliments on their dress. Significantly more female respondents than male respondents stated that they had reported events of sexual harassment to someone ($p < 0.001$). The most frequent emotional reactions to sexual harassment were embarassment (reported by 24.0%), anger (by 23.4%) and frustration (20.8%). CONCLUSION: Psychological abuse, discrimination on the basis of gender and sexual harassment are commonly experienced by residents in training programs. A direct, progressive, multidisciplinary approach is needed to label and address these problems.

8 of 9
Marked Record

TI: Determinants of the generalist career intentions of 1995 graduating medical students.
AU: Kassebaum-DG; Szenas-PL; Schuchert-MK
AD: Division of Educational Research and Assessment, Association of American Medical College, Washington, DC, USA.
SO: Acad-Med. 1996 Feb; 71(2): 198-209
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: Using national databases of the Association of American Medical College, the authors employed logistic regression analysis to show the relative predictive influences of selected demographic, structural, attitudinal, and educational variables on the specialty careers choices of 1995 U.S. medical school graduates. Plans to pursue certification in family practice or an unspecified generalist career could be predicted with moderate success, while choices of general internal medicine and general pediatrics could not. The intentions of the 1995 graduates to pursue generalist specialty, were significantly associated with demographic factors such as female gender, older student age, and rural hometown; early interest in the generalist specialties; attitudes favoring helping people over seeking opportunities for leadership, intellectual challenge, or research; the presence of a department of family medicine in the medical school; and ambulatory care experiences in the third and fourth years. In the multiple-regression models used in this study, a number of factors widely touted as important to the cultivation of generalism were not significant predictors of generalist decisions; an institutional mission statement expressly addressing the cultivation of generalist careers; giving admission preferences to applicants who vowed an interest in generalism; public (versus private) school sponsorship; discrete organization units for general internal medical or general pediatrics; the proportion of institutional faculty in the general specialty of medicine and pediatrics; the level of educational debt; the students; clinical experiences in the first and second years of medical school. The authors acknowledge the danger of inferring causal relationships from analyses of this kind, and described how the power of previous associations--e.g., that between a required third-year clerkship in family medicine and graduates' family practice career choices--may be weakened when the independent variable spreads across institutional cultures that at present are less conductive to primary care. The findings of this analysis add to the evidence that generalist career intentions are largely carried on the tide of students' interests and experiences in family medicine and ambulatory primary care. In terms of the predictive values of the input variable in this study, career decisions for the other two generalist specialties--general internal medicine and general pediatrics--were essentially a crapshoot, either

because the tactics to promote interest in these fields were ineffective (or confounded), or because the efforts were underdeveloped. Moreover, the statistical models of this study employed quantifiable variables that can be discerned and manipulated to guide the result, whereas medical students tend to identify less tangible elements as more powerful factors influencing their career choices. The results sharpen the strategic focus, but must be combined with those of other, descriptive analysis for a more complete understanding of graduating students' career decisions.

Marked Record

TI: Physicians' documentation of sexual abuse of children.
AU: Socolar-RR; Champion-M; Green-C
AD: Department of Pediatrics, University of North Carolina School of Medicine, Chapel Hill, USA.
SO: Arch-Pediatr-Adolesc-Med. 1996 Feb; 150(2): 191-6
This source is Available only few issues in S.J.M.C. Library
LA: ENGLISH
AB: OBJECTIVES: To assess the quality of documentation by physicians in their evaluations for sexual abuse of children and to define factors that affect documentation. DESIGN: Cross-sectional survey and blinded chart review. SETTING: A statewide program for child abuse evaluations. PARTICIPANTS: Physicians (n = 145) who performed evaluations during fiscal year 1992-1993 were surveyed. Up to five randomly chosen medical records (n = 548), obtained from each eligible physician, were reviewed. INTERVENTIONS: None. MEASUREMENTS AND RESULTS: A survey of physicians who participated in the statewide program was made in summer 1993, with 78% participation. Knowledge scores were derived from the survey based on a comparison with the responses of a panel of five experts. Charts that were obtained from eligible physicians were assessed by two blinded reviewers. Documentation of the history and physical examination was evaluated as good or excellent by 30% and 23% of the physicians, respectively. Factors that were positively associated with better documentation of the history included a more structured format for the record, continuing medical education courses on sexual abuse of children, female gender, and a history of disclosure ($P < .005$ for all). Factors that were related to good documentation of the physical examination included structured records, continuing medical education courses, female gender, and knowledge scores. Factors that were not related to knowledge or documentation included the number of evaluations performed, practice group size or location, age of the physician, and a physician's reading of journal articles about sexual abuse of children. CONCLUSION: Quality of evaluations for sexual abuse of children may be improved by the use of structured records and participation in continuing medical education courses with regard to sexual abuse of children.

Gender + ME Medline Search 7/1/98

MEP 86-11

PC-SPIRS 3.40 MEDLINE (R) 1/97-9/97

1 of 9
Marked Record

TI: Medical school entrance and career plans of Malaysian medical students.
AU: Razali-SM
AD: Department of Psychiatry, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia.
SO: Med-Educ. 1996 Nov; 30(6): 418-23
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH
AB: This study investigates the reasons for entry to medicine and the career perspectives of phase III medical students of the Universiti Sains Malaysia (USM). The majority of the students were Malays from low socio-economic backgrounds who entered medical school after completing a 2-year matriculation course. An interest in medicine and helping people were the two main stated reasons for entry to medical school. A group of students wishing to work in private practice was identified. In comparison to the rest of the study body, students in the group were: not well prepared to enter medical school; dissatisfied with the course; and subject to family influences. A desire for monetary gain motivated their choice of medicine as a career. Overall, 13% of the students wished to change career because they were dissatisfied with their experience of medicine as undergraduates. The study did not find a significant difference in career intentions between female and male medical students. However, women were less likely to seek entrance into private practice or pursue formal postgraduate education. The choice of surgery as a career was confined to men. About 90% of the students had already decided on their future specialty. Four well-established specialties were their most popular choices. The gender of the students had no significant influences of the decision to continue into postgraduate education. The proportion of female students who wished to marry doctors was significantly higher than for male students.

2 of 9
Marked Record

TI: Gender sensitivity in medical curricula [see comments]
AU: Zelek-B; Phillips-SP; Lefebvre-Y
AD: Faculty of Health Sciences, University of Ottawa, Ont.
SO: Can-Med-Assoc-J. 1997 May 1; 156(9): 1297-300
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: Both sex--the biologic aspects of being female or male--and gender--the cultural roles and meanings ascribed to each sex--are determinants of health. Medical education, research and practice have all suffered from a lack of attention to gender and a limited awareness of the effects of the sex-role stereotypes prevalent in our society. The Women's Health Interschool Curriculum Committee of Ontario has developed criteria for assessing the gender sensitivity of medical curricula. In this article, the effects of medicine's historical blindness to gender are explored, as are practical approaches to creating curricula whose content, language and process are gender-sensitive. Specific areas addressed include ensuring that women and men are equally represented, when appropriate, that men are not portrayed as the prototype of normal (and women as deviant), that language is inclusive and that women's health and illness are not limited to reproductive function. By eliminating or at least addressing the subtle and often unintentional gender stereotyping in

lecture material, illustrations and problems used in problem-based learning, medical educators can undertake a much-needed transformation of curriculum.

3 of 9
Marked Record

TI: Gender-associated differences in medical students' ratings of their courses.
AU: Perez-J; Sarrias-Ramis-R
AD: Unit of Medical Education, Faculty of Medicine, Autonomous University of Barcelona, Spain. IKPI1@CC.UAB.ES
SO: Acad-Med. 1996 May; 71(5): 512
This source is Available in S.J.M.C Library
LA: ENGLISH

4 of 9
Marked Record

TI: Gender stereotypes and misconceptions: unresolved issues in physicians' professional development.
AU: Bickel-J
AD: Association of American Medical Colleges, USA.
SO: JAMA. 1997 May 7; 277(17): 1405, 1407
This source is Available in S.J.M.C Library
Call Number: From: 1918+
LA: ENGLISH

5 of 9
Marked Record

TI: Gender issues and generalism in medicine.
AU: Elks-ML
AD: Texas Tech University Health Sciences Center, Lubbock 79430, USA.
SO: Acad-Med. 1996 Dec; 71(12): 1281-4
This source is Available in S.J.M.C Library
LA: ENGLISH

6 of 9
Marked Record

TI: A predictive model of student satisfaction with the medical school learning environment.
AU: Robins-LS; Gruppen-LD; Alexander-GL; Fantone-JC; Davis-WK
AD: Department of Postgraduate Medicine, University of Michigan Medical School, Ann Arbor 48109-0201, USA. lrobins@umich.edu
SO: Acad-Med. 1997 Feb; 72(2): 134-9
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: PURPOSE: To examine differences in attitudes toward the medical school learning environment among student subgroups based on gender and race-ethnicity, to identify the most influential predictors of student satisfaction with the learning environment, and to create a model of student satisfaction with the learning environment. METHOD: Three years of survey data (1992-93 to 1994-95) from first-year students at the University of Michigan Medical School were combined. The total sample consisted of 430 respondents, broken into two sets of subgroups: women (n = 171) and men (n = 259), and whites (n = 239) and underrepresented minorities (n = 74). Asian students were removed from analyses when comparisons were made by race-ethnicity, but were included in the analyses for all students and those comparing men and women. Student's t-tests were used to identify differences between gender and racial-ethnic groups in mean responses to seven survey items, and effect sizes were used to characterize the magnitudes and practical significances of the differences. Forward stepwise regression was conducted to determine the best predictive models for each student subgroup and for the total sample; the subgroup models were compared with each other as well as with the total-sample

model. RESULTS: Cross-validation of the gender and race-ethnicity models showed that the men's satisfaction and the women's satisfaction were predicted equally well using either subgroup's model, and that the white students' satisfaction and the underrepresented-minority students' satisfaction were predicted equally well using either subgroup's model. Furthermore, the total-sample model, employing a subset of five predictors, was similar in its predictive power to the subgroup models. CONCLUSION: The study's findings suggest that curriculum structure (timely feedback and the promotion of critical thinking) and students' perceptions of the priority faculty place on students' education are prominent predictors of student satisfaction (across all subgroups) with the learning environment. In contrast, students' perceptions of the learning environment as a comfortable place for all gender and racial-ethnic groups, although less prominent predictors of satisfaction, will discriminate among the subgroups.

7 of 9
Marked Record

TI: The prevalence of sexual harassment among female family practice residents in the United States.
AU: Yukovich-MC
AD: Family Health Care of Wadsworth OH 44281, USA.
SO: Violence-Vict. 1996 Summer; 11(2): 175-80
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: The purpose of this study was to determine the prevalence of sexual harassment as defined by the AMA among female family practice residents in the United States. Of all 1,802 U.S.FP female resident physicians surveyed, a total of 916, or 51%, completed a survey of which 32% reported unwanted sexual advances, 48% reported use of sexist teaching material, 66% reported favoritism based on gender, 36% reported poor evaluation based on gender, 37% reported malicious gossip, 5.3% reported punitive measures based on gender, and 2.2% reported sexual assault during residency. Thirty two percent of respondents reporting sexual harassment experienced negative effects including poor self-esteem, depression, psychological sequelae requiring therapy, and in some cases, transferring training programs. Sexual harassment is a common occurrence among family practice residents during residency training. Further studies are needed to examine the effect of sexual harassment policies instituted by the American Graduate Council on Medical Education on the prevalence of sexual harassment in medical training since the time of this study.

8 of 9
Marked Record

TI: Gender in medicine: the views of first and fifth year medical students.
AU: Field-D; Lennox-A
AD: Department of Epidemiology and Public Health, University of Leicester, UK.
SO: Med-Educ. 1996 Jul; 30(4): 246-52
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH
AB: This study of first and fifth year medical students found a general recognition among male and female students that gender affects future career choices and the ability to reach career goals. Females were seen as being disadvantaged both in terms of career choice and their ability to achieve career goals. These views are less abstract and more based upon the reality of personal experiences in clinical attachments among fifth year students. While both male and female students describe negative experiences of clinical training, female students were more likely to suffer discrimination because of their gender in certain specialties, such as surgery, and to be dissuaded from pursuing a career in that specialty. Despite the general awareness of the effects of gender in medicine this did not appear to have an effect upon personal career choice. However, some female students were considering career

choices at an early stage in their career based on accommodating their future desire to have a family life. Over half of all male and female fifth year students reported that having time for their family was an important consideration in choosing a career.

Marked Record

TI: Experiences of women in cardiothoracic surgery. A gender comparison.
AU: Dresler-CM; Padgett-DL; MacKinnon-SE; Patterson-GA
AD: Division of Cardiothoracic Surgery, Washington University, St. Louis, Mo, USA.
SO: Arch-Surg. 1996 Nov; 131(11): 1128-34; discussion 1135
This source is Available in S.J.M.C Library
Call Number: From: 1920+
LA: ENGLISH
AB: OBJECTIVE: To assess the career and practice experiences of cardiothoracic surgeons, with references to gender similarities and differences. DESIGN: Four-step mailed 115-question survey. SUBJECTS: All identified women, and a cohort of men, certified by the American Board of Thoracic Surgery. MAIN OUTCOME MEASURES: Academic rank, career background, salary, perceptions and experiences of harassment or discrimination, and personal life characteristics. RESULTS: No differences were found in training backgrounds. More men (64%) than women (52%) were in university practices. Comparable proportions of men and women were assistant professors (27%), but more men (27%) than women (13.6%) were full professors. Fifty-eight percent of women and 21% of men reported salaries of less than $250000; 62% of men and 32% of women had incomes over $350000. Career satisfaction was comparable between genders; however, women perceived the promotion process as unfair and unrelated to academic rank. Both genders encouraged men toward a surgical career; men were less likely than women to encourage women to pursue a surgical career ($P < .01$). Women, much more than men, believed that discrimination hindered their career development ($P < .001$). Characteristics of personal life were also considerably different between the genders. CONCLUSION: Although practice and training parameters for male and female cardiothoracic surgeons are comparable, work experiences, personal life, and career rewards such as salary and promotion, and perception of discrimination are different.

Gender + ME. - Medline Search 7/1/97

PC-SPIRS 3.40 MEDLINE (R) 1/96-1/97

1 of 5
Marked Record

TI: Sexual harassment of female physicians by patients. What is to be done?
AU: Phillips-S
AD: Department of Family Medicine, Queen's University, Kingston, Ont.
SO: Can-Fam-Physician. 1996 Jan; 42: 73-8
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: OBJECTIVE: To determine the responses of female physicians who have been sexually harassed by patients, as a means of answering the question, "What is to be done?" DESIGN: As part of a larger study on the topic, randomly selected participants were mailed a questionnaire requesting information about the nature and extent of sexual harassment by patients and about resulting feelings, actions, and suggestions for prevention. SETTING: Family practices in Ontario. PARTICIPANTS: A random sample of the 1064 female certificants of the College of Family Physicians of Canada in active practice in Ontario during 1992 was selected. A total of 599 were surveyed; 422 (70%) replied. MAIN OUTCOME MEASURES: Responses to survey questions. RESULTS: Of the 422 respondents, 76% reported sexual harassment by patients and their reactions to it. Though most respondents had many suggestions about how to minimize harassment, written comments suggested confusion as to its cause. Many participants wondered whether their behaviour, manner, or dress provoked unwanted responses. The ability to root the cause of the harassment externally as a social rather than a personal problem seemed to decrease immobilization. CONCLUSIONS: There is no single effective response to sexual harassment, but understanding its source as an abuse of the power of gender* (perhaps to overcome the powerlessness felt as a patient) could enable female physicians to act in protective and effective ways.

2 of 5
Marked Record

TI: Harassment of women physicians.
AU: Schiffman-M; Frank-E
AD: Department of Family and Preventive Medicine, Emory University School of Medicine, Atlanta, Georgia, USA.
SO: J-Am-Med-Womens-Assoc. 1995 Nov-Dec; 50(6): 207-11
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: This paper reviews current knowledge about the prevalence, characteristics, and costs of sexual harassment of women medical students and physicians. It also addresses the limited research on other forms of physician and student harassment, and notes the kinds of information that are still needed.

3 of 5
Marked Record

TI: Is registrarship a different experience for women?
AU: Saloojee-H; Rothberg-AD
AD: Department of Paediatrics and Child Health, University of the Witwatersand, Johannesburg.
SO: S-Afr-Med-J. 1996 Mar; 86(3): 253-7
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: OBJECTIVE: To determine differences between male and female registrars in

their subjective perceptions and experience of a paediatrics registrar training programme. DESIGN: Cross-sectional survey. 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 criticised 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.

4 of 5
Marked Record

TI: Abuse of residents: it's time to take action [editorial; comment]
AU: Myers-MF
SO: Can-Med-Assoc-J. 1996 Jun 1; 154(11): 1705-8
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: The scientific study of the sexual dynamics that come into play during residency training seems to both fascinate and repel trainees and their supervisors. One of the more provocative and shameful dimensions of this area of inquiry, the abuse of residents, causes a good deal of distress. How do we respond to findings of significant psychological abuse, discrimination on the basis of sex or sexual orientation and sexual harassment in medical settings? How can we ignore over a decade of research? How can we not heed the experience of so many young physicians? Given the uncertain times in Canadian medicine and the insecurity in our professional and personal lives, we must work together to improve the culture of our teaching institutions and implement measures nationally and locally to close this dark chapter.

5 of 5
Marked Record

TI: Residents' experiences of abuse, discrimination and sexual harassment during residency training. McMaster University Residency Training Programs [see comments]
AU: Cook-DJ; Liutkus-JF; Risdon-CL; Griffith-LE; Guyatt-GH; Walter-SD
AD: Department of Medicine, McMaster University Faculty of Health Sciences, Hamilton, Ont.
SO: Can-Med-Assoc-J. 1996 Jun 1; 154(11): 1657-65
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: OBJECTIVE: To assess the prevalence of psychological abuse, physical assault, and discrimination on the basis of gender and sexual orientation, and to examine the prevalence and impact of sexual harassment in residency training programs. DESIGN: Self-administered questionnaire. SETTING: McMaster University, Hamilton, Ont. PARTICIPANTS: Residents in seven residency training programs during the academic year from July 1993 to June 1994. Of 225 residents 186 (82.7%) returned a completed questionnaire, and 50% of the respondents were women. OUTCOME MEASURES: Prevalence of psychological abuse, physical assault and discrimination on the basis of gender and sexual orientation experienced by

residents during medical training, prevalence and residents' perceived frequency of sexual harassment. RESULTS: Psychological abuse was reported by 50% of the residents. Some of the respondents reported physical assault, mostly by patients and their family members (14.7% reported assaults by male patients and family members, 9.8% reported assaults by female patients and family members), 5.4% of the female respondents reported assault by male supervising physicians. Discrimination on the basis of gender was reported to be common and was experienced significantly more often by female residents than by male residents ($p < 0.01$). Ten respondents, all female, reported having experienced discrimination on the basis of their sexual orientation. Most of the respondents experienced sexual harassment, especially in the form of sexist jokes, flirtation and unwanted compliments on their dress or figure. On average, 40% of the respondents, especially women ($p < 0.01$), reported experiencing offensive body language and receiving sexist teaching material and unwanted compliments on their dress. Significantly more female respondents than male respondents stated that they had reported events of sexual harassment to someone ($p < 0.001$). The most frequent emotional reactions to sexual harassment were embarassment (reported by 24.0%), anger (by 23.4%) and frustration (20.8%). CONCLUSION: Psychological abuse, discrimination on the basis of gender and sexual harassment are commonly experienced by residents in training programs. A direct, progressive, multidisciplinary approach is needed to label and address these problems.

Gender & ME - Medline search 6/1/99. MEP 96-12

PC-SPIRS 3.40 MEDLINE (R) 1998/01-1998/10

receive careful follow-up.

1 of 13

TI: Changes in medical student attitudes as they progress through a medical course.
AU: Price-J; Price-D; Williams-G; Hoffenberg-R
AD: Faculty of Medicine, University of Queensland.
SO: J-Med-Ethics. 1998 Apr; 24(2): 110-7
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: OBJECTIVES: To explore the way ethical principles develop during a medical education course for three groups of medical students--in their first year, at the beginning of their penultimate (fifth) year and towards the end of their final (sixth) year. DESIGN: Survey questionnaire administered to medical students in their first, fifth and final (sixth) year. SETTING: A large medical school in Queensland, Australia. SURVEY SAMPLE: Approximately half the students in each of three years (first, fifth and sixth) provided data on a voluntary basis, a total of 385 students. RESULTS: At the point of entry, minor differences were found between medical students and first year law and psychology students. More striking were differences between male and female medical students, suggesting early socialization had a substantial impact here. CONCLUSIONS: Results indicate that substantial changes in attitude have developed by the beginning of fifth year with little change thereafter. Gender difference persisted. Some difference in ethical attitudes were found when groups of different ethnic backgrounds were compared. The impact of a move to a graduate medical course, which gives high priority to ethics within a professional development domain, can now be evaluated.

2 of 13

TI: Autopsies in children: are they still useful?
AU: Kumar-P; Taxy-J; Angst-DB; Mangurten-HH
AD: Department of Pediatrics, Lutheran General Children's Hospital, Park Ridge, Ill 60068, USA.
SO: Arch-Pediatr-Adolesc-Med. 1998 Jun; 152(6): 558-63
This source is Available only few issues in S.J.M.C. Library
LA: ENGLISH
AB: BACKGROUND: Autopsy has traditionally been the criterion for determining cause of death and has played a major role in medical education and quality control. With increasing use of bedside technology, however, autopsy rates have steadily declined. OBJECTIVE: To identify (1) trends in pediatric autopsy rates during the past decade, (2) concordance between antemortem and postmortem diagnoses, and (3) patient characteristics influencing autopsy rates or diagnostic yield. METHODS: All pediatric deaths between January 1, 1984, and December 31, 1993, were retrospectively reviewed. Data collection included demographics for all patients, and length of stay, diagnostic imaging studies, antemortem diagnoses, and autopsy findings for patients with autopsies. Autopsy diagnoses were compared with antemortem findings and classified according to their concordance. RESULTS: Of 297 pediatric deaths, autopsies were performed on 107 patients (36%). Autopsy rates did not change significantly during the study period. Autopsies were not associated with patient gender, race, or insurance status, but increased significantly with age. Autopsies were performed in 26% of infants 12 months or younger, 60% of children between 13 to 60 months of age, and 100% of children 61 months or older (chi2; P <.001). In 34% of cases, new diagnoses were made at autopsy, including 7 cases where new findings, if known before death, would likely have resulted in a change in

treatment or improved survival. There was no relationship between new findings at autopsy and age, length of hospital stay, or antemortem imaging studies. CONCLUSIONS: Autopsy can provide additional information in more than one third of pediatric deaths. Pediatric autopsy continues to provide clinically significant data and remains a valuable tool in modern pediatric practice.

3 of 13

TI: Sense and sensitivity: developing a gender issues perspective in medical education.
AU: Lent-B; Bishop-JE
AD: Department of Family Medicine, University of Western Ontario, London, Canada.
SO: J-Womens-Health. 1998 Apr; 7(3): 339-42
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: As part of a larger project focused on integrating women's health issues and gender issues into undergraduate medical education in Canada, the question of what is actually meant by a "gender issues perspective" in medical education was explored. Clinical experience, discussions with colleagues, and exposure to a variety of medical education resources reinforced the complexity of the subject and demonstrated the difficulty in making amorphous ideas concrete. Eight dimensions encompass the key concepts underlying a gender issues perspective. Practical applications highlight the usefulness of these suggested dimensions in making sense of and bringing sensitivity to this complex subject.

4 of 13

TI: Do junior doctors feel they are prepared for hospital practice? A study of graduates from traditional and non-traditional medical schools.
AU: Hill-J; Rolfe-IE; Pearson-SA; Heathcote-A
AD: Faculty of Science and Mathematics, University of Newcastle, New South Wales, Australia.
SO: Med-Educ. 1998 Jan; 32(1): 19-24
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH
AB: A valid and reliable questionnaire was developed which assesses eight subscales relating to key areas of medical hospital-based work. This was used to evaluate junior doctors' perceptions of the adequacy of their undergraduate medical training to prepare them for hospital practice. Data from 139 (60%) first-year doctors (interns) showed that graduates from the problem-based medical school rated their undergraduate preparation more highly than traditional medical school graduates in preparing them for practice in the areas of interpersonal skills, confidence, collaboration with other health care workers, preventive care, holistic care and self-directed learning. These findings persisted when ratings were adjusted for the effects of age and gender. There were no differences between the intern groups for patient management and understanding science. This research suggests that educational experiences in different undergraduate medical courses are important in preparing doctors for their early working life.

5 of 13

TI: Women's oral health issues: an exploration of the literature.
AU: Covington-P
SO: Probe. 1996 Sep-Oct; 30(5): 173-7
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1963-1980
LA: ENGLISH
AB: As interest in women's health issues grows, there is increasing concern that today's practice of medicine may not meet the health needs of women. A primary reason is the gender bias that has been inherent in medical education, research and clinical practice. The prevailing medical viewpoint has often been

that the male body is considered to be the norm and that the female body exactly the same except for the reproductive function. This attitude has led to a lack of interest in researching gender differences and a consequent lack of knowledge of women's health issues. Fortunately, there is a movement for change. The Women's Health Interschool Curriculum Committee was formed in January 1992 to develop curricula concerning women's health and examine bias that may exist in existing curricula. The Canadian Women's Health Network has been growing across the country and there have been calls to create a new specialty in women's health. According to Angell, this proposal for a new specialty was provocatively debated in the Journal of Women's Health, which started publication in 1992. There is also a growing concern on how to conduct better research to address women's health needs. As more attention is paid to women's health issues, what will happen in the area of oral health? In health care, it would seem that the mouth has become completely separated from the rest of the body. Health conferences rarely have any oral health content at all. To correct this problem, there must be an increase in general awareness of the importance of oral health as it relates to the overall health of both women and men. Good oral health is more than just decay-free teeth. Oral health encompasses the teeth, the supporting periodontal structures, soft tissues of the mouth and oral pharynx area, temporomandibular joints and muscles of mastication. The mouth is a gateway to the body and will also reflect many systemic health problems, such as diabetes, leukemia and lupus. The second step would be the recognition that women may have different oral health needs and issues than men. The common view may be that teeth are gender free, but how can this be when teeth exist in a body, and that body is male or female? For many years, the primary acknowledged difference between men and women's oral health was pregnancy gingivitis. Like medicine, dentistry must re-examine the viewpoint that women's oral health differs from men's only as it is influenced by reproductive processes. There are many areas where women's oral health may differ from that of men. This paper will explore the literature for potential women's oral health issues in the areas of oral hygiene behaviours, esthetics, eating disorders, temporomandibular disorders, and hormonal influences on periodontal health.

6 of 13

TI: Improving residents' performances of clinical breast examination.
AU: Freund-KM; Burns-RB; Antab-L
AD: Women's Health Unit, Evans Department of Medicine, Boston Medical Center, Massachusetts 02118, USA.
SO: J-Cancer-Educ. 1998 Spring; 13(1): 20-5
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: BACKGROUND: Clinical breast examination and mammography are recommended as combined modalities for breast cancer screening. Rates of mammography are increasing; however, clinical breast examination rates are decreasing. Specific training in breast examination may be warranted. METHODS: The authors developed an ambulatory rotation to teach breast cancer screening to medical residents. To assess whether this training improved screening performance, they compared clinical breast examination and mammography rates in residents' continuity clinics before and after training among residents who were assigned to the training program and residents who were not. RESULTS: 314 women patients were seen by 28 residents. The rates for annual clinical breast examination and mammography were 39% and 71%, respectively. Clinical breast examination rates increased by 18% among the residents assigned to the training program, whereas they dropped by 13% over than same period among the residents who had not received the training ($p < 0.005$). Female residents performed more clinical breast examinations than did their male counterparts (50% vs 34% $p < 0.01$). Mammography rates did not change with training, and were not associated with resident gender or career plans. CONCLUSION: Although the residents performed mammography at high rates, clinical breast examination rates were low. Short-term directed teaching about clinical breast examination increased the

performance of this screening test, and is important to incorporate into teaching programs.

7 of 13

TI: Onset of acute psychotic states in India: a study of sociodemographic, seasonal and biological factors.
AU: Malhotra-S; Varma-VK; Misra-AK; Das-S; Wig-NN; Santosh-PJ
AD: Department of Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh, India.
SO: Acta-Psychiatr-Scand. 1998 Feb; 97(2): 125-31
This source is Available only few issues in S.J.M.C. Library
LA: ENGLISH
AB: This is a comparative study of patients with acute-onset, non-affective, non-organic, remitting psychoses and with non-remitting or schizophrenic psychoses in India. Two groups of patients with acute remitting and non-remitting or schizophrenic psychoses were compared with regard to the following variables: month of onset of psychosis; presence of stress, particularly fever, within 4 weeks preceding the onset of psychosis; childbirth within 12 weeks preceding the onset of psychosis; gender differences. It was found that the acute remitting psychoses showed an overrepresentation of females, a higher frequency of associated stress preceding the onset of psychosis, more often had onset during the summer months, i.e. between May and September, and had fever and childbirth preceding the onset of psychosis in a significantly higher proportion of patients, compared to acute non-remitting psychoses or schizophrenia. The implications of the findings which point towards biological factors in the aetiology of acute remitting psychoses are discussed.

8 of 13

TI: Antibiotics for colds in children: who are the high prescribers?
AU: Mainous-AG-3rd; Hueston-WJ; Love-MM
AD: Department of Family Practice, University of Kentucky, Lexington, USA. mainouag@musc.edu
SO: Arch-Pediatr-Adolesc-Med. 1998 Apr; 152(4): 349-52
This source is Available only few issues in S.J.M.C. Library
LA: ENGLISH
AB: OBJECTIVE: To examine physician characteristics associated with being a high prescriber of antibiotics for pediatric upper respiratory tract infections (URIs). DESIGN AND SETTING: Analysis of 34624 episodes of care for URIs in children (younger than 18 years) in the Kentucky Medicaid program from July 1, 1995, to June 30, 1996. PARTICIPANTS: Primary care physicians with at least 25 episodes of care (n=205). The proportion of patients with URIs receiving antibiotics stratified the sample into low (< or =25th percentile) and high (> or =75th percentile) antibiotic prescribers. MAIN OUTCOME MEASURES: Bivariate analyses were computed comparing the high and low prescribers. A logistic regression model was computed for likelihood of being a high prescriber by number of URI episodes, proportion of patients receiving antibiotics that were broad spectrum, years since medical school graduation, physician gender, rural/urban practice, and specialty. RESULTS: The high prescriber group (n=52) included data from 11899 episodes of care, with a mean prescribing rate of 80%. The low prescriber group (n=55) included data from 5396 episodes, with a mean prescribing rate of 16%. High prescribers were significantly more years away from medical school graduation (27 vs 19 years; P<.001) and had managed significantly more URI episodes than low prescribers (229 vs 98; P=.001). In the logistic regression, compared with pediatricians, the odds ratios of being a high prescriber were 409 (95% confidence interval [CI], 29-7276) for family practitioners and 318 (95% CI, 17-6125) for other primary care physicians. CONCLUSION: With the rise of antibiotic-resistant bacteria, more focused training regarding treatment of URIs is warranted in residency and in continuing medical education forums.

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TI: Alzheimer's disease risk factors as related to cerebral blood flow: additional evidence.
AU: Crawford-JG
AD: Indiana University School of Medicine, Terre Haute Centerfor Medical Education, 47890, USA. iccrawfo@scifac.indstate.edu
SO: Med-Hypotheses. 1998 Jan; 50(1): 25-36
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: In a previous report, Alzheimer's disease risk factors, including alcohol abuse, depression, Down's syndrome, cerebral glucose metabolism defect, head trauma, old age, Parkinson's disease, sleep disturbance, and underactivity, were shown to have an association with reduced cerebral blood flow. In this report an attempt is made to strengthen a hypothesis that reduced cerebral blood flow may be a required cofactor in the cause of Alzheimer's disease with examples of additional putative risks, including aluminum, ApoE 4 alleles, estrogen deficiency, family history of dementia, low education-attainment, olfactory deficit, and underactivity coupled with gender, considered to have a relationship or potential relationship with reduced cerebral blood flow. Factors, believed to ameliorate Alzheimer's disease, associated with improved or stabilized cerebral blood flow are tabulated. A tentative cerebral blood flow nomogram is shown as a potential model to possibly help predict Alzheimer's disease susceptibility.

10 of 13

TI: Resisting constraints, creating opportunities. The experiences of some early medical women.
AU: Walker-L
AD: Department of Sociology, University of the Witwatersrand, Johannesburg.
SO: S-Afr-Med-J. 1997 Nov; 87(11): 1508-12
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: This paper aims to document the experiences of some women doctors who graduated between 1924 and 1940. It highlights some of the difficulties they encountered in establishing themselves as respected medical practitioners and briefly describes the social context in which they worked. The data for this paper were gathered through the use of one qualitative research method, viz. intensive interviewing. This paper draws on seven in-depth interviews. It focuses on two aspects of these women's professional lives: their medical training and their career paths. It seeks to demonstrate that while some were subject to discriminatory practices by a male-dominated medical profession, they were also involved in pioneering work and made their mark as respected practitioners.

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TI: Re: 'Skills of pre-registration house officer: gender differences reported in Norway' [letter]
AU: Green-J; Morgen-C; Currie-C; Davies-S
SO: Med-Educ. 1997 Sep; 31(5): 394
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH

12 of 13

TI: Home, training and work: mobility of British doctors.
AU: Parkhouse-J; Lambert-TW
AD: Department of Public Health and Primary Care, University of Oxford, UK.
SO: Med-Educ. 1997 Nov; 31(6): 399-407
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH

AB: This study examines the locations of family homes, medical schools and places of specialist training, and work of doctors qualifying from UK medical schools in 5 calendar years between 1974 and 1993. The contribution of each UK region to the medical workforce relative to its population is assessed and trends over time are examined. The relationship between place of family home and medical school attended is examined for 14,108 doctors. Career appointment location and its relationship to medical school and family home location are examined for over 4000 doctors. For the qualifiers of 1983, an additional analysis incorporating place of training is included. Large differences were found in the percentage of medical students from local family homes attending each regional medical school. In some cases differences reflected local populations but other cases had no obvious cause. Over all cohorts studied, 38% of respondents attended a medical school in the region of their family home (32% of 1993 qualifiers), 42% held a career post in the same region as their medical school, and 38% held a career post in the same region as their family home. Among the qualifiers of 1983, 65% had a career post in the same region as their postgraduate training, 34% also attended medical school in the same region, and 19% also came from family homes in the same region. More women than men took up a career post in the same region as their postgraduate training. The relationships to family home and medical school did not differ by gender. Consultants appeared slightly less likely than GPs to have stayed within a region, but this difference was not statistically significant.

TI: Analysis of stress levels among medical students, residents, and graduate students at four Canadian schools of medicine.
AU: Toews-JA; Lockyer-JM; Dobson-DJ; Simpson-E; Brownell-AK; Brenneis-F; MacPherson-KM; Cohen-GS
AD: Continuing Medical Education, University of Calgary Faculty of Medicine, Alberta, Canada.
SO: Acad-Med. 1997 Nov; 72(11): 997-1002
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: PURPOSE: To assess stress in medical students, residents, and graduate science students at four Canadian schools of medicine. METHOD: Four schools with different curricula in three different parts of Canada participated in the study: the University of Calgary Faculty of Medicine, the University of Alberta Faculty of Medicine, the Dalhousie University Faculty of Medicine, and the McMaster University Faculty of Health Sciences. All the medical students, residents, and graduate science students at each school were surveyed in 1994-95. The three instruments used were the University of Calgary Stress Questionnaire, the Social Readjustment Rating Scale (SRRS), and the Symptom Checklist-90. Demographic data were compared across all four schools. Analysis of variance was calculated for all test-item scores, utilizing a four (school) by three (program) by two (gender) design, which were all between subject factors. Significant main effects were followed up by using planned comparisons (Newman-Keuls, with a probability level of $p < .05$). Significant interaction effects were followed up by using an analysis of simple effects. RESULTS: A total of 1,681 questionnaires were returned as follows: 621 of 1,304 (48%) from the medical students, 645 of 1,495 (43%) from the residents, and 415 of 829 (50%) from the graduate science students. There were significant differences between the three groups in the natures and degrees of stress, with the graduate students reporting higher levels of stress. There were significant gender differences as well, with the women reporting higher levels of stress. Overall, stress levels were found to be mild, based on the University of Calgary Stress Questionnaire and the SRRS. CONCLUSION: This study suggests that medical students and residents experience stress at levels that appear acceptable, but ongoing monitoring and the provision of appropriate support systems will continue to be important.

MEP 96-13

PC-SPIRS 3.40 MEDLINE (R) 1/95-1/96

1 of 18
Marked Record

TI: Interactive effects of traits, states, and gender on cardiovascular reactivity during different situations.
AU: Burns-JW
AD: Department of Psychology, Finch University of Health Sciences, The Chicago Medical School, Illinois 60064, USA.
SO: J-Behav-Med. 1995 Jun; 18(3): 279-303
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: Interactive effects of anger and anxiety traits, negative affect state, different situations, and gender on cardiovascular reactivity (CVR) to stress were examined. Subjects (91 men, 92 women) performed a reaction time task under either a Social Evaluation, a Harassment, or a Control condition; SBP, DBP, and HR were recorded continuously. Hierarchical multiple regressions revealed intricate interactions. The interaction of anger expression style and anger experience was significant only among men, such that anger suppressors with high trait anger showed the largest CVR of any group during Harassment; anger expressors exhibited generally high CVR across conditions. However, anger expression style and state negative affect interacted to affect CVR in both men and women. Finally, the fear of negative evaluation predicted elevated DBP responses only among men in the Social Evaluation condition. Results imply that the extent to which traits of anger and anxiety contribute to coronary risk may depend on interactions with other traits, gender, and the environment.

2 of 18
Marked Record

TI: Clinical competence of interns. Programme Evaluation Committee (PEC).
AU: Rolfe-IE; Andren-JM; Pearson-S; Hensley-MJ; Gordon-JJ
AD: Faculty of Medicine and Health Sciences, University of Newcastle.
SO: Med-Educ. 1995 May; 29(3): 225-30
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH
AB: A clinical supervisors rating form addressing 13 competencies was used to assess the clinical competence of graduates one year after qualification in New South Wales (NSW), Australia. Data from 485 interns (97.2%) showed that graduates from the problem-based medical school were rated significantly better than their peers with respect to their interpersonal relationships, 'reliability' and 'self-directed learning'. Interns from one of the two traditional NSW medical schools had significantly higher ratings on 'teaching', 'diagnostic skills' and 'understanding of basic mechanisms'. Graduates from international medical schools performed worse than their peers on all competencies. These results were adjusted for age and gender. Additionally, women graduates and younger interns tended to have better ratings. Junior doctors have differing educational and other background experiences and their performance should be monitored.

3 of 18
Marked Record

TI: Severity-adjusted differences in hospital utilization by gender.
AU: Yuen-EJ; Gonnella-JS; Louis-DZ; Epstein-KR; Howell-SL; Markson-LE
AD: Center for Research in Medical Education and Health Care, Jefferson Medical

College, Philadelphia, PA 19107, USA.
SO: Am-J-Med-Qual. 1995 Summer; 10(2): 76-80
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: Gender-based differences in hospital use may result from biological differences or may suggest problems of access to health services and quality of care. We hypothesized that there should be no difference in hospital care between men and women, given the same diagnosis. Hospitalizations were characterized by severity of illness, as this may indicate the timeliness of hospital care. Hospitalizations may be too late (with higher severity of illness) resulting in long stays and high costs, or too early (with lower severity of illness) resulting in care that could be given in alternative treatment settings. Three abdominal conditions were examined which could be misdiagnosed or confused with other diseases involving the female reproductive system: appendicitis, diverticulitis, and cholecystitis. The National Hospital Discharge Survey (NHDS) was used for analysis. Disease staging was used to assign a severity of illness indicator, ranging from stage 1 (conditions with no complications) to stage 3 (multiple site involvement, poor prognosis). For each disease, the percentage of discharges and the age-adjusted discharge rate per 1000 population was examined by stage of illness and gender. For appendectomy, there was a significantly greater percentage of men at stage 1 (lower severity) compared to women (73% versus 67%). For diverticular disease, women had higher proportions of stage 2/3 discharges than men for both medical and surgical hospitalizations. For cholecystitis, women had a greater percentage of hospitalizations at stage 1 than men, notably for surgical treatment (63% compared with 38%), although more men were admitted at stage 2 for both medical and surgical treatment.(ABSTRACT TRUNCATED AT 250 WORDS)

4 of 18
Marked Record
TI: Psychiatrists' and non-physician psychotherapists' beliefs about gender-appropriate behavior: a comparison.
AU: Kaplan-M; Free-N
AD: Department of Psychiatry, University of Cincinnati, College of Medicine, OH, USA.
SO: Am-J-Psychother. 1995 Winter; 49(1): 59-67
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: We adapted the Bem Sex-Role Inventory to survey therapists' beliefs about gender-appropriate behavior for hypothetical patients. We previously studied psychiatrists, finding that women were more likely to choose masculine or androgynous (high masculine and high feminine) traits as optimal for female patients while men were more likely to choose the undifferentiated (low masculine and low feminine) category for patients of either sex. In this study we used the same measure to compare psychologists and social workers to the psychiatrists, to determine the effect of medical education on these attitudes. We found that regardless of educational background, women were more likely to choose the androgynous category and men were more likely to choose the undifferentiated category. Women psychiatrists were more likely to choose masculine traits as optimal than were women non-physician therapists. Male therapists of all backgrounds were least likely to choose masculine traits as optimal for either male or female patients. Medical education per se does not seem to determine attitudes about gender-appropriate behavior. Men entering professions in which they are concerned about others' emotional well-being may have less stereotypically masculine beliefs about gender-appropriate behavior than women entering the same fields. Possible reasons for this difference are discussed.

5 of 18
Marked Record
TI: [Is gender of significance for specialization of physicians? An analysis of

specialization degree among female and male physicians]
AU: Gjerberg-E; Hofoss-D
AD: Seksjon for helsetjenesteforskning, Statens Institutt for Folkehelse, Oslo.
SO: Tidsskr-Nor-Laegeforen. 1995 Apr 20; 115(10): 1253-7
this source is not Available in S.J.M.C.Library
LA: NORWEGIAN; NON-ENGLISH
AB: Although there has been a substantial increase in the number of women in medicine, we still find strong gender differences in career patterns. Female physicians specialize to a lower degree than their male colleagues do, although the percentage who do so has increased in recent years. The gender difference in frequency of specialization is not an effect of female physicians' spending a longer time on specialist training. Our results indicate that female physicians, to a greater extent than their male colleagues have to choose between family and career. A larger percentage of female than of male physicians live alone, perhaps indicating that career demands a higher price for the former. However, the percentage of singles is, larger among older than among younger female physicians. We interpret this as indicating that the necessity to choose between career and family is not as strong as it used to be.

6 of 18
Marked Record

TI: A national study of the factors influencing men and women physicians' choices of primary care specialties.
AU: Xu-G; Rattner-SL; Veloski-JJ; Hojat-M; Fields-SK; Barzansky-B
AD: Center for Research in Medical Education and Health Care (CRMEHC), Thomas Jefferson University, Philadelphia, Pennsylvania, USA.
SO: Acad-Med. 1995 May; 70(5): 398-404
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: BACKGROUND. Despite a recent increase in the percentage of graduating U.S. medical students planning to pursue generalist careers, interest in primary care among students is still far below what it was in the early 1980s and falls well short of the stated goal of the Association of American Medical Colleges that half of all graduates should choose generalist careers. Also during the past decade, the number of women students and physicians has increased. Given the importance of concerns regarding the primary care work force, it is timely to examine the relationship between gender and other factors that influence the decision to enter primary care. METHOD. Totals of 1,038 (65%) men and 558 (35%) women primary care physicians selected from the 1983 and 1984 graduates of all allopathic U.S. medical schools were surveyed in early 1993. Gender comparisons were made on the 19 variables that influenced the physicians' decisions to enter primary care specialties and on the six factor scores derived from a factor analysis of these 19 variables. Also included in the gender comparisons were characteristics of practice, populations served, timing of making the decision to enter primary care, and personal demographic information. RESULTS. Men, more than women, were influenced to become primary care physicians by early role models. Women, more than men, were influenced by personal and family factors. Overall, medical school experience and personal values are two important factors that explained the largest variances of the 19 predictor variables influencing the physicians' choices of primary care disciplines. There was no gender difference in place of origin, family income as a child, timing of the decision to become a primary care physician, or the amount of debt upon graduation. CONCLUSION. This nationwide study of primary care physicians indicates that men and women physicians differ in their perceptions of the relative importances of factors influencing the choice of a primary care specialty. Gender-specific factors should receive more attention in the development of successful strategies to attract more medical students into primary care specialties.

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Marked Record

TI: Taking the pulse of older women's health. Despite advances, gender gap still exists in medical education, research, and clinical care [editorial; comment]
AU: Butler-RN
SO: Geriatrics. 1995 May; 50(5): 6, 8
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1947-1979
LA: ENGLISH

8 of 18
Marked Record

TI: Older women's health: 'taking the pulse' reveals gender gap in medical care [see comments]
AU: Butler-RN; Collins-KS; Meier-DE; Muller-CF; Pinn-VW
AD: Henry L. Schwartz Department of Geriatrics and Adult Development, Mount Sinai Medical Center, New York, USA.
SO: Geriatrics. 1995 May; 50(5): 39-40, 43-6, 49
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1947-1979
LA: ENGLISH
AB: In the United States, for every 100 men age 65 and older, there are 147 women, a ratio that has social and medical consequences. Five panelists "take the pulse" of older women's health in general and in the offices of primary care physicians in particular. They assess the status of medical education and the need to include older women in research and drug trials, issues of gender bias in health insurance and quality of treatment, ways to improve the use of preventive health services--such as mammography and Pap smears--by older women, and the role of office physicians in identifying and helping victims of domestic violence.

9 of 18
Marked Record

TI: Effect of anonymous test grading on passing rates as related to gender and race.
AU: Dorsey-JK; Colliver-JA
AD: Department of Internal Medicine, Southern Illinois University School of Medicine (SIUSM), Springfield, USA.
SO: Acad-Med. 1995 Apr; 70(4): 321-3
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: BACKGROUND. Concerns about potential bias in the grading of medical students at the Southern Illinois University School of Medicine led to a major institutional policy change whereby students' identities were masked during the test-grading process. The present study assessed the effect of this anonymous test grading policy by comparing the performance of men and women students and of white and African American students prior to and after adoption of the policy change. METHOD. A test-passing rate was determined for each of 476 freshmen students in the comparison groups from the eight classes of 1988 through 1995. Mean test-passing rates for the four student cohorts prior to policy implementation (1988-1991) were compared with mean passing rates after the policy was implemented (1992-1995). RESULTS. The pre-post change in the mean test-passing rate of men was not significantly different from the pre-post change of women, and a nonsignificant effect was also found when the pre-post change in the mean test-passing rate of white students was compared with that of African American students. No significant pre-post change was found for white men, white women, African American men, or African American women. CONCLUSION. The results showed no effect of the anonymous test-grading policy, which suggests that there was no widespread gender or racial bias in the grading of freshman medical students before the change in institutional grading policy.

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Marked Record

TI: Gender comparisons of young physicians' perceptions of their medical education, professional life, and practice: a follow-up study of Jefferson Medical College graduates.
AU: Hojat-M; Gonnella-JS; Xu-G
AD: Center for Research in Medical Education and Health Care, Jefferson Medical College, Philadelphia, PA 19107-5083, USA.
SO: Acad-Med. 1995 Apr; 70(4): 305-12
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: PURPOSE. To obtain information from a group of young physicians and compare men and women on their evaluations of selected areas of the medical school curriculum, their perceptions of issues related to medical practice and professional life, and their specialty choices, professional activities, and research productivity. METHOD. In 1992, a questionnaire was mailed to 1,076 physicians who had graduated from Jefferson Medical College between 1982 and 1986. The responses of men and women were compared using multivariate and univariate analyses of variance, t-tests, chi-square, and median test. RESULTS. Completed questionnaires were returned by 667 graduates (530 men and 137 women). The curriculum areas of interpersonal skills, disease prevention, medical ethics, and economics of health care were rated by both men and women as being the most important in medical training. Conversely, research methodology and statistics received the lowest ratings. Women, in general, valued psychosocial aspects of medical care higher than did men. Among the areas of perceived problems related to practice, lack of leisure time received the highest ratings (as being the greatest problem) and interpersonal interactions received the lowest ratings (as being the least problem) from both men and women. The men were more concerned than the women about the areas of patient chart and documentation, malpractice litigation, physician oversupply, peer review, and interaction with patients. These differences remained when specialties and numbers of hours worked per week were held constant. Generally, the physicians reported satisfaction with their professional lives, but the men tended to be more satisfied than the women about their decisions to become physicians and in their perceptions of medicine as a rewarding career. The proportion of men employed full-time (99.4%) was significantly higher than that for women (84%). Women were more likely to practice general pediatrics, while men were more likely to practice surgery and surgical subspecialties. Full-time--employed women worked fewer hours per week (57) than men (63), and men reported more research productivity than women. CONCLUSION. The implications of the findings of numerous gender differences are discussed regarding the issues of physician workforce, types of care rendered by men and women, and possible changes in the national health care system.

11 of 18
Marked Record

TI: The professional structure of Soviet medical care: the relationship between personal characteristics, medical education, and occupational setting for Estonian physicians.
AU: Barr-DA
AD: Department of Social and Behavioral Sciences, University of California, San Francisco 94143-0612.
SO: Am-J-Public-Health. 1995 Mar; 85(3): 373-8
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1942-1991
LA: ENGLISH
AB: OBJECTIVES. Using the Estonian example, this study provides data to describe the ways in which personal, educational, and occupational factors interacted to determine the professional structure of the Soviet health care system. METHODS. The study analyzes data gathered from a survey of 20% of the

physicians in Estonia. It measures the frequencies of pertinent personal and occupational factors, and uses multivariate analysis to explore relationships between these factors. RESULTS. Most physicians in Estonia are women and work in urban settings. About half of the physicians work in hospitals, and one third work in large outpatient clinics called polyclinics. About one third work in primary care. Gender affects education, specialty, type of workplace, and administrative duties; nationality affects education and administrative duties. CONCLUSIONS. The Soviet system of health care derived its professional structure from a combination of personal and occupational factors. Those considering options for reform of the health care systems of the newly independent states that once constituted the Soviet Union should appreciate the nature of these structural forces.

12 of 18
Marked Record

TI: Age and gender differences in students' preadmission qualifications and medical school performances.
AU: Ramsbottom-Lucier-M; Johnson-MM; Elam-CL
AD: Department of Medicine, University of Kentucky College of Medicine (UKCM), Lexington 40536-0284.
SO: Acad-Med. 1995 Mar; 70(3): 236-9
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: PURPOSE. To investigate the age- and gender-related differences in matriculants' preadmission performances and in their subsequent medical school performances. METHOD. A longitudinal database was used to provide information on the 557 students in six entering classes (1984-1989) at the University of Kentucky College of Medicine. The preadmission variables were undergraduate science and cumulative grade-point averages (GPAs), Medical College Admission Test (MCAT) scores, and interview ratings. The medical school variables were GPAs for the four years of school and scores on the National Board of Medical Examiners Part I and Part II examinations. Age- and gender-related differences were analyzed by analyses of variance. To examine age differences, the students were grouped by age at matriculation: less than 23 years old, between 23 and 27, and 28 or older. RESULTS. The younger matriculants had significantly higher undergraduate GPAs than did their older peers; however, their performances on the MCAT were nearly identical. The men had higher MCAT scores than the women in all age groups, but the older women had higher undergraduate GPAs than the older men. The younger students tended to have slightly higher medical school GPAs than the older students. No age differences were found for the NBME I and II, and no gender difference was found for the NBME II; however, a modest gender difference was found for the NBME I, with the men performing better than the women. CONCLUSION. Dramatic age and gender differences were evident in the preadmission performances, while the differences in the medical school performances were much smaller.

13 of 18
Marked Record

TI: The relationship of indebtedness, race, and gender to the choice of general or subspecialty pediatrics.
AU: Brotherton-SE
AD: Division of Research on Health Policy, American Academy of Pediatrics, Elk Grove Village, IL 60009-0927.
SO: Acad-Med. 1995 Feb; 70(2): 149-51
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: BACKGROUND. Little research has examined indebtedness and the choice of continued subspecialty training. Concerns about a decline in the proportion of primary care physicians obliges medical educators to understand factors that influence the choice of subspecialty training. METHOD. Survey data on 437 pediatricians who graduated between the years 1981 and 1987 were collected in

1991. Logistic regression was used to examine the influences of sex, race, graduation year, type of medical school, and educational debt (adjusted for inflation) on whether a pediatrician had trained in a subspecialty. RESULTS. Three variables were associated with subspecialty training. Men and whites were significantly more likely to have trained in subspecialties, as were earlier graduates. Type of medical school and debt did not enter the equation. CONCLUSION. Other variables were found to be more influential than indebtedness in the career decisions of primary care and subspecialty pediatricians. Distinguishing between subspecialties that have noticeably higher incomes and those that serve to enhance primary care pediatrics may be illuminating. That men and whites were more likely to train in subspecialty pediatrics suggests that financial considerations, if present, may be masked under other cultural and societal factors.

14 of 18
Marked Record

TI: Women's health: time for a redefinition [editorial; comment]
AU: Simkin-RJ
SO: Can-Med-Assoc-J. 1995 Feb 15; 152(4): 477-9
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: Traditionally, women's health has been defined in mainly biologic terms. The various contexts within which women's health can be considered have been ignored, and many people have been unable to recognize the need for such a clinical entity as "women's health" in the first place. It is time for a change in attitudes and approaches. We need a more inclusive definition of women's health, one that takes into account social, cultural, spiritual, emotional and physical aspects of well-being. Case histories that have recently received media attention and statistics on the impact of poverty and violence on women also show how urgently a redefinition of "women's health" is needed. Regardless of whether "women's health" will always have to be viewed as a separate discipline or whether it can be brought within mainstream medical practice, it is clear that, by altering their perception of women's health and of the problems unique to women, physicians can improve both health care and medical education to the benefit of all members of our society.

15 of 18
Marked Record

TI: Determinants of career choices among women and men medical students and interns.
AU: Redman-S; Saltman-D; Straton-J; Young-B; Paul-C
AD: Faculty of Medicine, University of Newcastle, Australia.
SO: Med-Educ. 1994 Sep; 28(5): 361-71
This source is Available only few issues in S.J.M.C. Library
Call Number: From: 1977-1986
LA: ENGLISH
AB: Women continue to be poorly represented in medical specialties other than general practice. A cross-sectional design was used to explore the development of career plans as medical training progressed; men and women students were compared in their first (n = 316), final (n = 295) and intern (n = 292) years. Women at each stage of training were significantly more likely to choose general practice as the field in which they were most likely to practise. There was little evidence that these differences were influenced by experience during training: women were as likely to choose general practice in first year as in the intern year. The most important determinant of career choice appeared to be the flexibility of training and of practice of medicine: variables such as the opportunity for part-time training, flexible working hours and part-time practice were important determinants of career choice and were of more importance to women than to men. The study also found high rates of discrimination or harassment reported by women medical students and interns. The results indicate the need for continued debate about these issues within

medicine and the development of more flexible styles of medical training and practice.

16 of 18
Marked Record

TI: Development of a measure of medical faculty attitudes toward clinical evaluation of students.
AU: McGaghie-WC; Richards-BF; Petrusa-ER; Camp-M; Harward-DH; Smith-AS; Willis-SE
AD: Northwestern University Medical School, Chicago, IL 60611-3008.
SO: Acad-Med. 1993 Jan; 70(1): 47-51
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: PURPOSE. This research involved the development, and in particular the evaluation of the reliability, of scales to measure medical faculty attitudes toward clinical evaluation (ACE) of medical students. The intent was to create measures that yield reliable data and have practical utility in medical education research and faculty development. METHOD. A systematic, eight-step scale development protocol was used to create the instrument. In early 1993 factor analysis was used on data from 217 clinical faculty at four medical schools to refine the measures. Internal consistency and test-retest reliability analyses were performed. Analyses were also done to determine whether the attitude scores were influenced by such faculty demographic attributes as employing medical school, gender, age, tenure track status, academic rank, or academic department. RESULTS. An initial pool of 52 items was reduced to 30 items based on iterative reliability studies. Factor analysis on the 30 items yielded two scales: (1) Quality of Evaluation Procedures, 12 items, alpha = .81; and (2) Content of Departmental Evaluations, eight items, alpha = .85. Test-retest reliabilities (12 weeks) for the scales were .67 and .74, respectively. Faculty demographics did not influence attitudes about the quality of evaluation procedures. However, family physicians showed a slightly more positive attitude toward the content of departmental evaluations than did physicians in five other medical specialties. CONCLUSION. The goal of developing reliable measures of faculty attitudes toward clinical evaluation of medical students has been achieved. With baseline reliabilities established, future research should assess the validity and utility of the scales, especially in the context of clinical practice examinations.

17 of 18
Marked Record

TI: Factors that affect surgical rates in Iowa.
AU: McGuire-SM; Phillips-KT; Weinstein-JN
AD: Faculty of Medicine, Harvard University, Cambridge, Massachussetts.
SO: Spine. 1994 Sep 15; 19(18): 2038-40
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: STUDY DESIGN. This study analyzed insurance claims to estimate the probability of medical and surgical treatments in different Iowa communities. The likelihood of surgical treatment was associated with patient characteristics of age and gender as well as hospital characteristics of size (number of beds), occupancy rate, and number of staff. OBJECTIVES. Our findings are being used by a study group of 25 physicians to understand the causes of variation in surgical rates for low back pain. Medical education and other interventions are being implemented. SUMMARY OF BACKGROUND DATA. Hospitalization rates for lower back operations in the United States increased by more than 20% from 1978 to 1985. Consequently, several studies in Iowa and the US have been initiated to examine the medical effectiveness of these treatments. METHODS. A logistic regression model was used to determine the factors associated with the likelihood of having a low back surgery in a population of Blue Cross/Blue Shield (BCBS) subscribers in Iowa. The outcome, or dependent variable, of interest was a hospitalization that resulted in a

surgical procedure on a low back pain patient. RESULTS. Surgical rates for the treatment of low back pain are likely to be increased if a BCBS Iowa subscriber is female, older than 44 years of age, or if the surgery is performed in a hospital with either an occupancy rate less than 62%, with fewer than 774 staff members, fewer than 267 beds, or no residency programs.

18 of 18
Marked Record

TI: Gender in medical encounters: an analysis of physician and patient communication in a primary care setting.
AU: Hall-JA; Irish-JT; Roter-DL; Ehrlich-CM; Miller-LH
AD: Department of Psychology, Northeastern University, Boston, Massachusetts 02115.
SO: Health-Psychol. 1994 Sep; 13(5): 384-92
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: The relation of physician and patient gender to verbal and nonverbal communication was examined in 100 routine medical visits. Female physicians conducted longer visits, made more positive statements, made more partnership statements, asked more questions, made more back-channel responses, and smiled and nodded more. Patients made more partnership statements and gave more medical information to female physicians. The combinations of female physician-female patient and female physician-male patient received special attention in planned contrasts. These combinations showed distinctive patterns of physician and patient behavior, especially in nonverbal communication. We discuss the relation of the results to gender differences in nonclinical settings, role strains in medical visits, and current trends in medical education.

1 of 6
Marked Record

TI: Learning, satisfaction, and mistreatment during medical internship: a national survey of working conditions.
AU: Daugherty-SR; Baldwin-DC Jr; Rowley-BD
AD: Rush Primary Care Institute and Rush Medical College, Chicago, IL 60612-3833, USA. sdaugher@rush.edu
SO: JAMA. 1998 Apr 15; 279(15): 1194-9
This source is Available in S.J.M.C Library
Call Number: From: 1918+
LA: ENGLISH
AB: CONTEXT: Concerns about the working and learning environment of residency training continue to surface. Previous surveys of residents have focused on work hours and income, but have shed little light on how residents view their training experience. OBJECTIVE: To provide a description of the internship year as seen by a large cross section of second-year residents. DESIGN: Mail survey conducted in 1991. SETTING: Residency programs in the United States. PARTICIPANTS: Random 10% sample (N=1773) of all second-year residents listed in the American Medical Association's medical research and information database. MAIN OUTCOME MEASURES: What and who contributes most to residents' learning during internships, degree of satisfaction with the internship experience, on-call and sleep schedules, incidents of perceived mistreatment or abuse, observations of unethical behavior, and experiences of harassment or discrimination. RESULTS: A total of 1277 surveys (72%) of 1773 mailed were returned. Overall, respondents reported a moderate level of satisfaction with their first year of residency. On a scale of 0 to 3, residents rated other residents as contributing most (score of 2.3) to their learning, with special patients ranked second (2.1). During a typical work week, residents reported that they spent an average of 56.9 hours on call in the hospital. A total of 1185 (93%) residents reported experiencing at least 1 incident of perceived mistreatment, with 53% reporting being belittled or humiliated by more senior residents. Among women residents, 63% reported having experienced at least 1 episode of sexual harassment or discrimination. A total of 45% of residents reported having observed another individual falsifying medical records, and 70% saw a colleague working in an impaired condition, most often lack of sleep. Regression analyses suggest that satisfaction with the residency experience was associated with the presence of factors that enhanced learning, and fewer experiences of perceived mistreatment. CONCLUSIONS: Residents report significant problems during their internship experience. Satisfaction with internship is enhanced by positive learning experiences and lack of mistreatment.

2 of 6
Marked Record

TI: Discrimination against gay, lesbian and bisexual family physicians by patients.
AU: Druzin-P; Shrier-I; Yacowar-M; Rossignol-M
AD: Herzl Family Practice Centre, Sir Mortimer B. Davis-Jewish General Hospital, McGill University, Montreal, Que.
SO: CMAJ. 1998 Mar 10; 158(5): 593-7
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: BACKGROUND: Discrimination against gay, lesbian and bisexual (GLB) patients

by physicians is well known. Discrimination against GLB physicians by their colleagues and superiors is also well known and includes harassment, denial of positions and refusal to refer patients to them. The purpose of this study was to identify and quantify the attitudes of patients toward GLB physicians. METHODS: Telephone interviews were conducted with 500 randomly selected people living in a large urban Canadian city. Subjects were asked if they would refuse to see a GLB family physician and, if so, to describe the reason why. They were then given a choice of 6 reasons obtained from consultation with 10 GLB people and 10 heterosexual people. RESULTS: Of the 500 subjects 346 (69.2%) were reached and agreed to participate. Of the 346 respondents 41 (11.8%) stated that they would refuse to see a GLB family physician. The 2 most common reasons for the discrimination (prevalence rate more than 50%) were that GLB physicians would be incompetent and the respondent would feel "uncomfortable" having a GLB physician. Although more male than female respondents discriminated against GLB physicians, the difference was not statistically significant. The proportion of male and female respondents who discriminated increased with age ($p < 0.01$). CONCLUSIONS: The observed prevalence of patient discrimination against GLB family physicians is significant. The results suggest that the discrimination is based on emotional reasons and is not related to such factors as misinformation about STDs and fear of being thought of sexually. Therefore, educational efforts should be directed against general perceptions of homosexuality rather than targeting specific medical concerns.

3 of 6
Marked Record

TI: Relationships of gender and career motivation to medical faculty members' production of academic publications.
AU: Barnett-RC; Carr-P; Boisnier-AD; Ash-A; Friedman-RH; Moskowitz-MA; Szalacha-L
AD: Women's Studies Program, Brandeis University, Waltham, Massachusetts, USA. r_barnett@harvard.edu
SO: Acad-Med. 1998 Feb; 73(2): 180-6
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: PURPOSE: To evaluate the relationships between both internal and external career-motivating factors and academic productivity (as measured by the total numbers of publications) among full-time medical faculty, and whether these relationships differ for men and women. METHOD: In 1995 a 177-item survey was mailed to 3,013 full-time faculty at 24 randomly selected U.S. medical schools stratified on area of medical specialization, length of service, and gender. Two-tailed t-tests and regression analyses were used to study the data. RESULTS: A total of 1,764 faculty were used in the final analyses. The women had published two thirds as many articles as had the men (mean, 24.2 vs. 37.8). Intrinsic and extrinsic career motivation were rated similarly (on a three-point scale) by the women and the men: intrinsic career motivation was rated higher (women's mean rating: 2.8, men's mean rating: 2.9) than was extrinsic career motivation (mean rating: 2.1 for both). The main findings of the regression analyses were (1) intrinsic career motivation was positively associated, and extrinsic career motivation was negatively associated, with the number of publications; (2) publication rates were higher for the men than for the women after controlling for career motivation; and (3) there was no significant effect of gender on these relationships. CONCLUSION: The women faculty published less than did their men colleagues, but this difference cannot be accounted for by gender differences in career motivation. Further research on institutional support, family obligations, harassment, and other factors that could affect academic productivity is necessary to understand the gender difference in numbers of publications.

4 of 6
Marked Record

TI: Prevalence and correlates of harassment among US women physicians.

AU: Frank-E; Brogan-D; Schiffman-M
AD: School of Medicine, Emory University, Atlanta, Georgia, USA.
efrank@fpm.eushc.org
SO: Arch-Intern-Med. 1998 Feb 23; 158(4): 352-8
This source is Available in S.J.M.C Library
Call Number: From: 1918+
LA: ENGLISH
AB: BACKGROUND: Despite concerns about its prevalence and ramifications, harassment has not been well quantified among physicians. Previous published studies have been small, have surveyed only 1 site or a convenience sample, and have suffered from selection bias. METHODS: Our database is the Women Physicians' Health Study, a large (4501 respondents; response rate, 59%), nationally distributed questionnaire study. We analyzed responses concerning gender-based and sexual harassment. RESULTS: Overall, 47.7% of women physicians reported ever experiencing gender-based harassment, and 36.9% reported sexual harassment. Harassment was more common while in medical school (31% of gender-based and 20% for sexual harassment) or during internship, residency, or fellowship (29% for gender-based and 19% for sexual harassment) than in practice (25% for gender-based and 11% for sexual harassment). Respondents more likely to report gender-based harassment were physicians who were now divorced or separated and those specializing in historically male specialties, whereas those of Asian and other (nonwhite, nonblack, non-Asian, non-Hispanic) ethnicity, those living in the East, and those self-characterized as politically very conservative were less likely to report gender-based harassment. Being younger, born in the United States, or divorced or separated were correlated with reporting ever experiencing sexual harassment; those who were Asian or who were currently working in group or government settings were less likely to report it. Those who felt in control of their work environments, were satisfied with their careers, and would choose again to become physicians reported lower prevalences of ever experiencing harassment. Those with histories of depression or suicide attempts were more likely to report ever having been harassed. CONCLUSIONS: Women physicians commonly perceive that they have been harassed. Experiences of and sensitivity to harassment differ among individuals, and there may be substantial professional and personal consequences of harassment. Since reported rates of sexual harassment are higher among younger physicians, the situation may not be improving.

5 of 6
Marked Record

TI: A woman in medicine. From the 1940s to the 1990s. A personal saga.
AU: Mellette-SJ
AD: Internal Medicine, Medical College of Virginia, Virginia Commonwealth University, USA.
SO: Va-Med-Q. 1998 Winter; 125(1): 58-62
this source is not Available in S.J.M.C.Library
LA: ENGLISH
AB: The past 50 years through which I have lived as a woman in medicine have been an exciting time. Women in medicine have increased from a small minority to sizeable numbers. It remains for women in medicine to become more active in organizations and to assume more leadership roles. The current leadership of the Medical Society of Virginia is a step in that direction.

6 of 6
Marked Record

TI: Women in medicine: shaping the future.
AU: Kornstein-SG; Norris-SL; Woodhouse-SW
AD: Medical College of Virginia, Virginia Commonwealth University, Department of Psychiatry, Richmond 23298-0710, USA.
SO: Va-Med-Q. 1998 Winter; 125(1): 44-9
this source is not Available in S.J.M.C.Library
LA: ENGLISH

AB: The dramatic increase in the number of women in medicine presents some new challenges to an old institution. This article provides an overview of current trends and future directions as greater numbers of women are entering medicine. The first section describes women's particular approach to medicine, including their motivations for pursuing medicine as a career, their specialty choices and practice patterns, their attitudes about patient care and doctor-patient relationships, and their advocacy for women's health issues. The second section documents women's negative experiences in medicine, such as higher stress levels than men, gender discrimination, sexual harassment, role strain, and a paucity of mentors and role models. In the final section, the authors suggest how medicine as an institution can change to better accommodate women.

MEP 86 - 14

PC-SPIRS 3.40 MEDLINE (R) 10/97-12/97

Marked Record
TI: Assessing medical students' perceptions of mistreatment in their second and third years.
AU: Richardson-DA; Becker-M; Frank-RR; Sokol-RJ
AD: Department of Gynecology-Obstetrics, Henry Ford Hospital, Detroit, Michigan, USA.
SO: Acad-Med. 1997 Aug; 72(8): 728-30
This source is Available in S.J.M.C Library
LA: ENGLISH
AB: PURPOSE: To study medical students' perceptions of mistreatment in their second and third years of training. METHOD: A questionnaire was distributed at Wayne State University School of Medicine to the class of 1993 at the end of its third year and to the class of 1994 at the end of its second and third years. The students were asked if they had been subjected to various forms of mistreatment; the third-year students were asked to rate their perceptions of each clinical department's response to them on the basis of gender and race-ethnicity, as well as their overall treatment. The students also completed demographic information about age, gender, and marital status, number of children, and race-ethnicity. Results were analyzed using chi-square statistics, multivariate statistical analyses, analyses of variance, and Duncan's post-hoc comparisons. RESULTS: The response rate for the class of 1993 was 71.5%; response for the class of 1994 were 66.9% in their second year and 75.2% in their third year; 41.7% were women, and the racial-ethnic breakdown was 71.2% white/Caucasian, 11.7% black/African American and 16.8% other. There was a significant difference between the percentages of second-year and third-year students reporting any experience of mistreatment (37.2% vs 75.8%, $p < .001$). Canonical correlation analysis revealed bias in the third year based on gender ($p < .0001$) and race-ethnicity ($p < .0002$); both variates were related to sexual humor. The students' perceptions of mistreatment were lowest for family medicine and highest for obstetrics-gynecology and surgery. Perceptions of mistreatment in departments varied significantly by gender and race-ethnicity. The nonwhite males reported the least favorable treatment in most departments. CONCLUSION: Marked variability in the students' perceptions of mistreatment within departments suggest that a variety of approaches will be required to improve the medical training environment.

Marked Record
TI: Evaluation of sexual misconduct complaints: the Oregon Board of Medical Examiners, 1991 to 1995.
AU: Enbom-JA; Thomas-CD
AD: Oregon Board of Medical Examiners, Portland 97201, USA.
SO: Am-J-Obstet-Gynecol. 1997 Jun; 176(6): 1340-6; discussion 1346-8
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Call Number: From 1925+
LA: ENGLISH
AB: OBJECTIVE: In 1991 the Oregon Board of Medical Examiners initiated a separate category for the complaint of sexual misconduct. Investigated complaints of sexual misconduct brought to the Oregon Board of Medical Examiners were analyzed for the years 1991 to 1995 to serve as a baseline. Comparison was made to the Federation of State Medical Boards sexual misconduct data for 1991 and 1992. STUDY DESIGN: One hundred complaints brought against 80

licensees were evaluated by practitioner's degree, age group, sex, specialty, and disposition of complaints for the years 1991 to 1995. The allegations were classified into behavior categories of sexual impropriety, sexual transgression, and sexual violations. RESULTS: Sexual misconduct was the allegation in 5.9% of the complaints investigated for the study period. Oregon had more sexual misconduct complaints than the average reported to the Federation of State Medical Boards for the years 1991 and 1992. Most (72%) complaints came from the patients or their families. Two female physicians (2.4%) had sexual boundary complaints. Sexual misconduct complaints increased by a risk ratio of 1.44 with advancing age by decades. Allegations classified into behavior categories according to severity revealed 39% sexual impropriety, 31% sexual transgression, and 30% sexual violation. Reportable disciplinary actions occurred only with multiple allegations of sexual impropriety (6.5%) and for sexual transgression (27%) whereas sexual violation allegations often had one complainant but there were 54% reportable disciplinary actions. Family practice, obstetrics and gynecology, and psychiatry had the highest incidence of sexual misconduct complaints whereas psychiatry and obstetrics and gynecology had the highest incidence of reportable disciplinary actions. Twenty-five percent of the closed cases resulted in reportable disciplinary actions. This analysis is discussed in relationship to legal and ethical issues and the goal of zero tolerance. CONCLUSIONS: Oregon has a higher percentage of sexual misconduct complaints than the average for 42 states reporting to the Federation of State Medical Boards for the years 1991 and 1992. Analysis of the Oregon Board's experience for the study years will provide a baseline for future evaluation and as an educational resource for the Oregon Board of Medical Examiners and professional and specialty societies. Ethical standards, the reporting and investigative processes, and the legal framework are in place and lessen the incidence of sexual misconduct and work toward zero tolerance.

Re-planning medical education

A complete overhaul of medical education is required in order to realise the dream of 'Health for All', writes Dr K V Sanjeevi Shayana.

EVERY now and then a hue and cry is raised about the reluctance of doctors to serve in villages. No one can deny the necessity of rural health service, but are doctors alone responsible for the sorry state of medical service in the country? At one end we have state-of-the-art medical facilities for the well-to-do and at the other end abysmal service for the poor, especially in the villages where quacks play with the lives of hapless villagers. In order to correct this lopsided development of medical service in our country medical education has to be re-planned with imagination and commitment. If our dream of 'Health for all' has to be realised at least in another ten years, a complete overhaul of medical education is required.

We can take our cue from the Engineering faculty, where they have a four-tier-system of education:

i ITI (Certificate Course)

ii Diploma

iii Degree

iv Post Graduation

Medical Education too may offer a 4-tier system.

i 2-Year certificate course after SSLC.

ii 3-Year diploma course after PUC.

iii. 5 1/2 Year MBBS course after PUC.

iv. 3-Year post graduate course.

Students for the certificate and diploma courses should be compulsorily recruited from rural families, preferably with some landed property. They should be given education with stipends in nearby taluk or district centers by doctors in government hospitals.

The certificate holders should be recruited by the government as health workers, who should be provided with a two-wheeler to visit villages regularly. They should give basic medical care, maintain case sheets, and inform their higher ups about the cases treated. They should be trained to carry out immunization and simple blood and urine tests. They should refer difficult cases to taluk and district level hospitals. The diploma holders should man primary health centers, and MBBS and post graduates should man taluk and district level hospitals.

At present, though we have health workers working in villages, they are not systematically trained in basic health care. They don't have any idea about the anatomy and physiology of the human body or what constitutes an infection.

Another important fact to be considered is the role of our traditional ayurvedic medicines. At all levels of medical education from certificate to post graduate course, Ayurvedic/ Unani medical knowledge should be incorporated, so that our Indian doctors are well versed in both the systems. Separate Ayurvedic/ Unani colleges become unnecessary, if the above course is adopted.

This modified system of medical education should be introduced at one go in order to ensure a fair distribution of medical services. This will also ensure an end to quackery.

If rural health care is to be improved our focus should be on certificate and diploma health workers, who should be provided housing, basic amenities, free hostel facilities for their children's education etc., so that they are not forced to move out of their villages. Here again, the engineering sector which has built model, self-contained townships for their factory workers in remote areas should be emulated.

Only if primary health care and primary education is invigorated and brought to the door step of our vast rural populace can we hope to achieve a substantial improvement in our 'Human Development Index', a standard measurement for assessing the progress achieved by a nation. (At present India ranks 132 among 172 countries in the Human Development India report graded by the United Nations Development Programme).

Rural services can be corrected by making changes in medical education.