PRACTICE OBSERVED

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Practice Research

Screening Rastafarian children for nutritional rickets

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Abstract

We examined 42 Rastafarian children under 5 years of age who were registered with a single inner city general practice to determine the prevalence of nutritional rickets. Twenty children were receiving a strict vegan (1-tal) diet and were considered to be at high risk of developing rickets and were referred for biochemical and radiological investigation. Seven of 20 children investigated had rickets, giving an overall prevalence of 7/42. Treatment with oral cholecalciferol was successful in all seven children. Fourteen out of 18 children had evidence of iron deficiency, with low haemoglobin concentrations and hypochromic-microcytic blood films. Before this study Rastafarian children rarely attended the well baby clinic, received no vitamin supplements, and few had been immunised. They now regularly attend the clinic, receive vitamin and iron supplements, and all have completed primary immunisation.

Introduction

Certain ethnic minority groups in the United Kingdom, particularly Asians, have an increased risk of developing nutritional rickets, and some cult diets are associated with vitamin deficiency states.^{1,2} A new high risk group was identified recently when four young black children with nutritional rickets, all of whom came from Rastafarian families, were described.³ These children, all under 2 years of age,

were fully breast fed beyond 6 months of age, did not regularly receive Children's Vitamin Drops, and were weaned on to a strict vegan diet known as "1-tal". All four children came from the same inner city general practice that cares for most of the Rastafarian families who live in Bristol.

We identified and screened all Rastafarian children under 5 years of age who were registered with the practice to determine the prevalence of nutritional rickets in this population. At the close of the study important changes had occurred in the use made of primary health care services by the Rastafarian community in Bristol.

Methods

The notes of all children under 5 years of age who were registered with the practice were obtained from the age-sex register held in the family practitioner committee's computer. The list was scrutinised by one of us (JJ) and by two Rastafarian mothers whose children had previously been found to have rickets. Rastafarian families were usually identifiable from their characteristic names or were known to the mothers.

The notes of all the Rastafarian children were extracted, and a short questionnaire was stapled to the front cover of each set. This inquired about infant feeding, use of Children's Vitamin Drops, the nature of the mother's diet, and the child's diet after weaning. When the children were seen by one of the general practitioners or health visitors the questionnaire was completed and the child examined for clinical signs of rickets. Children who did not attend the well baby clinic, who had been breast fed, and who were referred to hospital for biochemical and radiological investigation (capillary blood was taken from a thumb prick and assayed for serum calcium and phosphate concentrations, alkaline phosphatase activity, and haemoglobin concentration. X ray films were taken of the left wrist and knee).

Results

Forty-two Rastafarian children, aged 0 to 54 months, were identified from the age-sex register. None regularly received Children's Vitamin Drops, few had received any immunisations, and all were infrequent attendees at the

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well baby clinic. Twenty children (eight boys, 12 girls) were reported by their mothers to be receiving 1-tal diets. These children, plus three others included in the request of their parents, were referred for biochemical and radiological investigation. Seven out of 20 children referred (including the four previously reported) had clinical, biochemical, and radiological evidence of rickets. The overall prevalence was therefore 7/42 (17%). Clinical signs in all cases were wrist swelling, palpable rachis, bowing, and frontal bossing of the skull. None of the children had biochemical evidence of rickets in the absence of clinical signs. The table gives details of biochemical investigations of the affected children. Diagnosed rickets was treated with oral cholecalciferol suspension, 3000 units daily for three months. Compliance with treatment was excellent, and all have fully recovered.

Details of patients with nutritional rickets

	Age (months)	Serum calcium (mmol/L)	Serum phosphate (mmol/L)	Alkaline phosphatase (U/L)	Haemoglobin (g/L)
Sex					
F	21	2.04	0.66	140	9.4
F	14	2.04	0.71	148	8.9
F	18	2.03	0.82	117	10.3
F	18	2.01	0.72	140	8.7
F	18	2.00	0.86	140	9.0
F	15	2.18	0.68	140	10.1
Age (months)	22	2.17	1.22	10	10.5

Values are mean (SD). Serum calcium: normal 2.1-2.6 mmol/L. Serum phosphate: normal 0.8-1.3 mmol/L. Alkaline phosphatase: normal 10-150 U/L.

Haemoglobin concentrations and blood films were obtained in 18 children. Fourteen out of the 18 (78%) had evidence of iron deficiency. The mean SD haemoglobin concentration was 10.1 (0.79) g/L (range 8.5-11.4). The children with rickets had a lower mean haemoglobin concentration (9.7 g/L) than those without rickets (10.7 g/L) ($p < 0.01$, Student's t test). Fourteen children, including all of those with rickets, had hypochromic-microcytic blood films.

At the close of the study all 42 children were regularly attending the well baby clinic, and were receiving Children's Vitamin Drops and iron supplements. All have completed primary immunisation.

Discussion

Infantile rickets has been reported in the United Kingdom in children of Asian, West Indian, and Cypriot origin and has been reported in West Indian children who live in Jamaica.⁴ Rastafarians, being a minority group among West Indians, represent yet another group at risk of developing nutritional rickets. Rastafarianism is attracting many young West Indian followers, and their beliefs include adherence to a Rastafarian diet, which endorses the use of oral vitamin D treatment. As news of the risk of infantile rickets became known to the Rastafarian community several mothers presented at the health centre requesting that their children be examined. It became apparent that a screening programme was needed and that the Rastafarian community was likely to cooperate. Previously, the Rastafarians seemed to shun orthodox medicine, particularly prescribed medication, and some of the fathers seemed anxious to avoid invasive investigations, including venepuncture. The screening programme was planned in conjunction with the local children's hospital. Most of the children were seen in the health centre, and only children who had clinical rickets or were considered to be at high risk of developing rickets were referred to hospital, where investigations were kept to the minimum necessary to make the diagnosis. As a result of the close cooperation between the health centre and the hospital the screening programme was successful in terms of both uptake of screening and compliance with treatment.

Of 42 children screened, seven had rickets, giving a prevalence of 17%. It was not clear why the affected children developed rickets while the others did not. All of the children came from similar social

environments in an inner city area where opportunities for outdoor recreation may be limited. Style of dress and social environment were no different for the rachitic and non-rachitic children. Rachitic children had appreciably lower haemoglobin concentrations than non-rachitic children, which may suggest that they had been given stricter vegan diets. Rastafarian mothers in Bristol usually breast feed their infants into the second half of the first year, when the babies are weaned on to a vegan diet containing no animal products and few fats or oils. Their diets are deficient in vitamin D and iron but contain sufficient calories, protein, and calcium.⁵ Routine administration of Children's Vitamin Drops should allow the children to adhere to their Rastafarian diet, while providing sufficient vitamin D to avoid nutritional rickets.

Throughout the screening programme the members of the primary health care team, particularly the health visitors, spent time with the Rastafarian families and impressed upon them the importance of vitamin and iron supplementation, immunisation, and attendance at the well baby clinic. Rastafarian children are now regular attendees at the clinic, receive vitamin and iron supplements, and have completed primary immunisation. Furthermore, Rastafarian women are now taking vitamin D supplements during pregnancy and regularly attend the antenatal clinic. As a result of screening for rickets doctors and health visitors have established a good relationship with the Rastafarians and have been able to improve many aspects of their health care.

We are grateful for the cooperation and help of all the doctors and health visitors at Montpelier Health Centre and to the departments of radiology, haematology, and biochemistry at the Bristol Royal Hospital for Sick Children and Bristol Maternity Hospital.

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100 YEARS AGO

We lately referred to the possible danger of the spread of glanders by public cattle troughs. We have since learned that, in the year 1880, a correspondent took place between the Metropolitan Board of Works and the Metropolitan Drinking Fountain and Cattle Trough Association upon this subject; and, although the Association had always taken precautions to avoid any such serious communication of disease, and had good reason for believing that their precautions were effectual, they, nevertheless, feared, at the suggestion of the Board of Works, a tumbling bay to each trough, by which the water would run off direct into the gully, and increase the rate at which the constant flow of water passes through the troughs. The Association have always kept a large staff of servants constantly at work cleaning out the troughs, and they have never had a complaint of disease being contracted in the way suggested, although not fewer than 200,000 horses are drinking daily at them. In their printed memorandum upon this subject, the Association gives full reasons for their contention that glanders is not transmitted by their troughs. We are very glad to give publicity to these facts, and to recommend the Metropolitan Drinking Fountain and Cattle Trough Association to the consideration of those of our readers, who are able and inclined to give support to an institution which does much to alleviate and prevent animal suffering, and whose funds, we believe, are by no means flourishing. (*British Medical Journal* 1885; 1: 342.)

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General practitioner obstetrics in the Northern region in 1983

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Abstract

In late 1983 a four page questionnaire on general practitioner obstetrics was sent to a 50% random sample of general practitioners in the Northern region of England, 84% responded. Half of them said that they had access to general practitioner facilities for delivery, and half of these used them. A quarter of all respondents had provided intrapartum care previously but had given it up, most of them during the late 1970s. Younger general practitioners were more highly qualified in obstetrics than older ones but did not do more intrapartum work. Isolated general practitioner maternity units were much more likely to be used than those that were alongside consultant units or integrated with them. Ninety per cent of respondents provided antenatal care, 77% of these at special clinics and 88% with midwives in attendance. Teamwork, however, was not well developed. Increasing general practitioner participation in obstetric care seems feasible but depends heavily on more appropriate training and intrapartum facilities being provided for general practitioners in association with specialist units.

Introduction

General practitioners today deliver fewer babies (in total and as a proportion of all births) than they did a decade ago and even fewer than two decades ago. There are several reasons for this: the falling birth rate, the abandonment of home deliveries, the lack of compensatory provision of general practitioner beds in hospitals, the consequent lack of practice for general practitioners, which is followed by atrophy of their skills and confidence.

Pressures have come from several directions to reverse this trend. General practitioners are now reasserting the advantages of continuity of care in pregnancy and labour and the suitability of general practitioner maternity units for patients at low risk.¹ In 1981 the Royal College of Obstetricians and Gynaecologists and the Royal College of General Practitioners jointly recommended that the number of general practitioners who provide full obstetric care should be increased.² This was restated by a working party of the Royal College of Obstetricians and Gynaecologists in 1983.³ General practitioners have begun to react more openly against the dehumanising of birth and the inappropriate use of obstetric technology.⁴ Some consultants now recognise the particular skills contributed by general practitioners in a few risk confinement.⁵ Finally, a recent government report drew together many of these views and included them in its recommendations.⁶

Unfortunately, this debate has been conducted without hard evidence on how many general practitioners still do intrapartum work, although educated guesses have been made.⁷ Efforts to reverse the decline in the number of general practitioner deliveries must be based on a realistic estimate of the extent of the contribution that general practitioners make to intrapartum care. Firmer statistics

are also needed to plan facilities for general practitioner deliveries and the organisation of general practitioner training.

In late 1983 we undertook a postal survey to investigate the obstetric work done by general practitioners in the Northern region.

Method

Since the number of general practitioners doing intrapartum work was thought to be small the survey sample had to be large for reliable statistics to be derived from it. The sampling frame consisted of the lists of principals in general practice in each of the nine family practitioner committee areas of the Northern region. Each list was stratified by practice size—that is, the number of principals. A four page questionnaire was sent to a 50% systematic sample of the resulting list of 1480 general practitioners in the region. After two weeks all non-respondents were sent a further copy of the questionnaire with a reminder letter. After a further two weeks the remaining non-respondents were sent a copy of the questionnaire on which the 50 questions had been highlighted, and they were asked to complete either the whole questionnaire or, if pressed for time, only the highlighted questions. Although not all of the returned questionnaires had been completed, all included a reply to the key question of whether the respondent undertook intrapartum care.

Of the 740 questionnaires sent out, 620 were returned (84%). Roughly half of those who were approached responded to each of the three mailings. The proportion of general practitioners who undertook intrapartum care was similar in each phase of the response—about 25%. This suggests that the survey respondents are reasonably representative of the population of general practitioners in the Northern region. Response rates for the nine family practitioner committee areas varied from 75% to 89%.

Because our questionnaire consisted of 50 separate questions it would have been possible, in theory at least, to compare thousands of different pairs of questions in analysing it. Such an approach, however, is both wasteful and more likely to generate spurious statistical associations. Therefore, before analysing the completed questionnaires we drew up a list of fewer than 200 pairs of questions, the responses to which we wanted to compare. Where both questions had categorical responses we used the simple χ^2 test; since the few remaining comparisons on our list were between questions with quantitative responses on the other only test we needed was the Mann-Whitney U test. More than 50 of the resulting tests were significant, a substantial proportion of them at the 1% or 0.1% level. The differences cited in this paper are limited to those that were significant at or below the 5% level in this way.

Results

The characteristics of the respondents were as follows: 82 (13%) were women, 538 (87%) men; 14% had graduated before 1950, 23% between 1950 and 1959, 26% between 1960 and 1969, and 37% after 1969; 91% were on the obstetric list; 33% held the diploma or membership of the Royal College of Obstetricians and Gynaecologists; and 4% had a hospital appointment in obstetrics or gynaecology. Younger general practitioners were more likely to hold the DRCOG or MRCOG than older ones.

Ten per cent of respondents belonged to small practices (up to 3000 patients), by medium sized practices (3001-9000 patients), and 46% to large practices (over 9000 patients). No relation was found between the size of the respondents' practices and the likelihood of their providing intrapartum care.

ANTENATAL CARE

Ninety per cent of respondents provided antenatal care: 21% cared for up to 18 pregnancies each year, 45% for between 19 and 38 pregnancies, and 34% for more than 38 pregnancies. Of those who provided antenatal care, 77% held special antenatal clinics, and these were more commonly associated with larger practices and with general practitioners who cared for

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TABLE I—Distance from unit and use made by general practitioners with access

	Distance of unit from home (miles)	Distance of unit from home (miles)	Distance of unit from home (miles)	Distance of unit from home (miles)
	0-1	1-2	2-3	3-4
No. of units	10	10	10	10
No. of users	10	10	10	10
Total No. (%)	10 (100)	10 (100)	10 (100)	10 (100)

χ^2 with 2 degrees of freedom: 16.8, 8 significant at the 0.1% level.

TABLE II—Reasons for not using or not wanting access to obstetric unit

	General practitioners not using obstetric unit	General practitioners not wanting access to obstetric unit
Reasons respondents were asked for (no.)	No. (%)	No. (%)
Time taken to get to obstetric unit	18	23
Time taken to get to obstetric unit	15	29
Time taken to get to obstetric unit	12	22
Time taken to get to obstetric unit	10	18
Time taken to get to obstetric unit	8	15
Time taken to get to obstetric unit	6	11
Time taken to get to obstetric unit	4	7
Time taken to get to obstetric unit	2	4

ACCESS TO AND USE OF FACILITIES FOR GENERAL PRACTITIONER DELIVERIES

Though most respondents interpreted the question "Do you have access to general practitioner delivery facilities?" geographically, a few interpreted it as "Have you made formal arrangements to use your local general practitioner delivery facility?" With regard to a few hospitals some general practitioners said that there are general practitioner delivery facilities there while others said there are not.

About half (328 of all respondents) had access to facilities and about a quarter (159) used them. Of the 284 47% general practitioners who had no access, 21% were willing to accept it if offered, 60% would refuse it, and the rest were undecided. Willingness to accept access did not vary appreciably with age group, but it was related to levels of obstetric qualification: general practitioners who held the diploma or membership were more likely to accept; and, surprisingly, to geographical distance from the hospital where the facilities would be located.

Age group was not an important factor in whether available facilities were used or not, neither was sex, though this was complicated by the fact that many women general practitioners expressed enthusiasm for intrapartum but were prevented from doing it by family commitments.

General practitioners with access to delivery facilities were asked how far away these facilities were from a) their surgery and b) their home. The average of these two distances was calculated for each respondent and showed that 25% were within six minutes' driving time from the facilities, 46% were from seven to 16 minutes away, and 18% were 17 or more minutes away.

Of the delivery facilities to which respondents had access, 28% were isolated, 20% were alongside consultant units, and 51% were integrated with consultant units. Levels of use varied widely in the different family practitioner committee areas: 79% of general practitioners with access in Cleveland used the facilities, 46% in Cumbria, but less than 30% in Newcastle, Tyne and Wear (and South), Gateshead, and County Durham.

The nature of the facilities available isolated, alongside consultant units, or integrated with consultant units had a strong bearing on the level of use: isolated units being used most and integrated ones least (table I). The distance that general practitioners had to travel to facilities was also important (table II), this being corroborated by the respondents' written reasons for not using the facilities (table III). The various hospitals considered in the survey showed different levels of use, but the numbers are too small to draw any firm conclusions about individual hospitals. General practitioners who had the diploma or membership of the Royal

College of Obstetricians and Gynaecologists were more likely than the others to do intrapartum work. A quarter of the respondents who did not deliver had done them in the past (table IV). Roughly 2% of general practitioners gave care for home births but did not provide deliveries, usually because they had no access.

TABLE IV—Pregnancies in which respondents stopped providing intrapartum care

	No. of pregnancies	No. of general practitioners who provided care
Before 1960	1	2
1960-4	8	15
1965-9	10	20
1970-4	10	20
1975-9	10	20
1980-4	10	20
Total	49	100

REASONS FOR NOT WANTING OR NOT USING FACILITIES FOR GENERAL PRACTITIONER DELIVERIES

Respondents who did not use facilities available to them were asked to give two main reasons for not doing so. Those who did not have access to facilities for delivery but would not accept it if offered were also asked for two main reasons. Table III lists the most frequently cited reasons, grouped into broad categories.

Discussion

The Northern region of England is a fairly typical region of Britain, and includes urban, suburban, and rural areas. The central fact that emerged from our study is that only about half of all general practitioners perceive that they have access to general practitioner delivery facilities, and only half of these still use them.

There was no perceptible sign of a young generation of general practitioners bringing a rebirth of enthusiasm for intrapartum care—Younger general practitioners were not more likely than older ones to use facilities for delivery nor more willing to accept facilities if offered; and they were less likely than older ones to have done any planned home deliveries. Despite this younger general practitioners had a higher level of obstetric education (DRCOG and MRCOG), but this did not seem to attract them to intrapartum work. This may indicate that current obstetric training (usually a six month appointment as a senior house officer in a consultant unit) is not an encouragement to carrying out intrapartum care as a general

TABLE V—Type of unit and use made by general practitioners with access

	Isolated	Alongside consultant	Integrated with consultant	All units
No. of units	71	80	141	192
No. of users	71	80	141	192
Total No. (%)	71 (100)	80 (100)	141 (100)	192 (100)

χ^2 with 2 degrees of freedom: 55.4, significant at the 0.1% level.

practitioner. It seems paradoxical that the one postgraduate qualification that is common among general practitioners (a third held the DRCOG) should be so underused. This might be amended by modifying obstetric training, and the following suggestions need serious consideration:

- (1) Trainee general practitioners who hold senior house officer appointments on consultant units should be less concerned in the care of "abnormal" pregnancies.
- (2) Trainees should participate in more "normal" cases—for example, being made responsible for minor abnormalities in patients being cared for by midwives.
- (3) Less "high technology" should be used on low risk patients who are in consultant care.
- (4) Trainees should attend deliveries on general practitioner units to observe both overall normal care and the general practitioner's role in providing such care.
- (5) Training practices that provide intranatal care should emphasise this role to their trainees.
- (6) The DRCOG examination should be orientated more towards general practice, with more general practitioner examiners and more questions about the general practitioner's intranatal role.¹⁷
- (7) More DRCOG courses should be run by general practitioners and by consultants who are sympathetic to general practitioner obstetrics.
- (8) The vocational training programme for general practitioners should include more intranatal obstetrics in the half day release sessions.

General practitioner antenatal clinics enable resources to be used more effectively and should be organised so that other members of the health care team may participate. Eighty eight per cent of general practitioners had midwives attached to their practices, and these general practitioners were more likely to arrange for the midwife to substitute or deputise for them in their antenatal clinics. Nevertheless, the level of substitution and deputising by midwives is low and gives the impression that the average general practitioner does not regard the midwife as an independent professional practitioner.¹⁸ Midwives should assert themselves and use their own skills, experience, and professional judgment. General practitioners should treat them as fellow professionals, sharing antenatal routines with them and arranging for them to deputise in their absence. Clearly developing antenatal clinics has been linked with more attachments of midwives, which may encourage substitution and deputising by midwives and more continuity of care.

Our data about general practitioner participation in intranatal care provide evidence of a downward spiral in which the removal of general practitioner facilities led to a decline in the intranatal work that general practitioners do and in their skills, leading to further closures of facilities. Many general practitioners were daunted by the rapid development of obstetric technology. They assumed that the statistics supported the common assertion (now increasingly disputed)¹⁹ that this had been a prime contributor to the improved perinatal mortality rate. This is reflected in the rate at which general practitioners have given up intranatal care, which peaked in the mid to late 1970s. Yet when respondents gave reasons for declining or not using delivery facilities, or for expecting general practitioners intranatal care to fade away, few cited "consultant care as good better" for low risk intranatal patients. Indeed, there is statistical evidence that the reduction in intranatal care was not due to this.

One fifth of general practitioners without access to delivery facilities would accept it if offered. Consultant units should offer facilities for general practitioner deliveries, including cover if the general practitioner is unable to attend.

General practitioners are still low by world standards, and participating doctors in their area and offer this. Again, this is the policy of the Royal College of Obstetricians and Gynaecologists. When only one general practitioner in a practice provides antenatal care, which is unusual, the consultant unit should offer cover if the general practitioner is unavailable.

There were revealing statistics about the use of different types of units. Despite the college's preference for integrated general practitioner facilities, neither units were used by a much higher proportion of general practitioners with access to them. This suggests higher levels of confidence and independence among these

general practitioners as well as pressure from patients to have access to local, convenient, and familiar facilities. This agrees with recent findings on the use of isolated units, which also give evidence of their good safety record and essential role in rural areas.¹ General practitioner obstetric units that are alongside consultant units offer the possibility of combining some of the advantages of isolated units with the back up of specialists who are immediately available. We believe that the closure of isolated units should be halted and that they should be retained even when a large district general hospital has been opened.

Conclusion

The figures relating to antenatal care in the Northern region—that is, numbers of cases, attachment of midwives, and organisation of clinics—are encouraging. On the other hand, the overall picture of general practitioner intranatal care is a bleak one. Yet it seems that there is a cadre of enthusiasts who demonstrate what is possible: a high level of understudied skill, and relatively easy methods of revitalising general practitioner participation. The Royal College of Obstetricians and Gynaecologists, supported by the Royal College of General Practitioners, needs to implement many of the recommendations arising from our data to halt the steady slide to specialist care of low risk pregnancies.

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100 YEARS AGO

The report, for 1884, of Mr. Ernest Butt, the veterinary officer of the Brown Institution, shows that the work of the hospital has been efficiently carried on, and highly appreciated by the owners of animals. 222 in-patients and 3,269 out-patients were treated during the year; the majority were horses and dogs. The fact of most importance was the occurrence of a series of cases of rabies during a short period towards the end of the year; the outbreak has, however, apparently subsided. Dr. Burdon Sanderson, when present, superintended, suggested that the leading symptoms of rabies should be printed on the back of dog licences, some permanent official in the Island Revenue Department provided this innovation. The suggestion, if brought to the notice of the present enlightened President of the Local Government Board, will, it is hoped, meet with a better fate. The cost of carrying out this ought not to exceed a few shillings a year. A great deal of annoyance undoubtedly exists with regard to the symptoms of rabies, of the "dumb" form especially, yet the recognition of the disease in its early stage, before the dog has become ferocious or helpless, is of the greatest importance. If the first cases were recognised in their earliest stages, it would be comparatively easy to stamp out a commencing epidemic. *British Medical Journal* 1885;1:498.

Reflections on Practice

Reconstruction of general practice: the way forward

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In my first article I analysed the strengths and weaknesses of general practice. What can be done to foster the development of primary care in a climate to achieve its potential? In policy making circles a new realisation may soon dawn. The erosion of clinical skills in general practice has gone so far that some may wonder whether an extensively trained doctor is needed to provide primary care, or at least most of it. Moreover, this realisation might come when, owing to mandatory vocational training, the cost of educating a general practitioner has risen sharply to £20 000 or more. The overall costs of the National Health Service are still low by world standards, and for that general practice may still take much credit. But a nation that is beset by economic problems cannot afford to waste any money on health care. If someone less costly can provide some primary care, then the Chancellor of the Exchequer would be shirking his duty if he did not insist on the substitution being made. And he might not have far to look because studies that are now underway in Birmingham and Aberdeen suggest that a nurse trained as a practitioner can relieve the general practitioner of his job. Where home visits are concerned this already happens; if nurses can act on their own outside the surgery then why not inside, where the general practitioner is close at hand? Furthermore, a nurse can be trained at only one fourth the cost of training a general practitioner and her income would be set at the same one quarter level.¹

This is not to suggest that general practitioners could or should ever be completely displaced. Someone with medical training will always be needed to make diagnostic sense of the confusing array of signs and symptoms that make up so much of the work of primary care. But it is now clear, not only from the nurse practitioner trial but from long standing experience with primary care teams, that much of the work may be safely delegated. Practice nurses, health visitors, midwives, and social workers already relieve general practitioners of many duties, and it seems but a short step from there to developing a larger role for nurses who are trained as practitioners. It is possible to foresee a pattern of primary care emerging with fewer general practitioners working but with a growing corps of ancillary aides.

Should the profession resist this movement and let general practitioners act like medical Luddites? As medical unemployment appears to be increasing this may seem like sound trade union tactics, but the risks of such a strategy may be as great as those facing nurses. Junior hospital doctors, rather than general practitioners, suffer most from unemployment.

ment, largely because the development of vocational training has made it difficult for them to find temporary work in general practice. The barriers between general practice and hospital medicine are now more rigid than before. Furthermore, the hospital service as a whole has suffered more than general practice from the financial cutbacks, and this has led to consultants, and even general practitioners, to look outside at the costs of general practice. They do not see why hospital practice should have cash limits while general practitioners are left free, overlooking, perhaps, that demand on general practice is open ended. This has led them to shift drug costs for outpatients to general practice and, more ominously for the future of general practice, has prompted some to restrict the direct access that they had freely granted to general practitioners.²⁻⁴

If diagnostic facilities were withdrawn completely we would be "going back to the middle ages of primary care," as Arnold Elliott so graphically put it in 1979.⁵ General practitioners could hardly function effectively under such conditions. It might make more sense to extend the hospital's outreach programme so that it covered larger portions of primary care. In inner city areas it might be desirable to create home care teams in accident and emergency departments with nurses (or nurse practitioners) supervised by hospital medical staff. With job prospects shrinking, junior hospital doctors might welcome this—and so might patients who have difficulty contacting general practitioners.

Whether this danger arose or not it would be irresponsible of general practitioners to resist a movement with such promising savings in costs as that employing nurse practitioners presents. It would also be to resist a change in public attitudes, and "technological" change, this presents general practitioners with a magnificent opportunity of freeing themselves from the routine work that has been so demoralising. Instead of resisting the employment of nurse practitioners, general practitioners should welcome them and use the opportunity to extend their own duties in a direction that is more satisfying.⁶ The BMA now opposes nurse practitioners, but the idea was supported in a leading article in the *BMJ* in 1977.⁷

It may be argued that the public will never accept such an innovation: a patient entering a surgery wants to see someone with a medical qualification. This may have been true 20 years ago, but there are signs of a change in public attitudes, and for this the profession itself is largely responsible. Not only do some general practitioners let nurses do home visits, but they also have conducted seminars in the surgery. Also, by putting restrictions between themselves and the public general practitioners have conditioned many patients to tolerate diagnosis by lay personnel. It would be surprising if a nurse practitioner was not more acceptable. She may be trained to follow strict protocols, and with a general practitioner close by a working relation may undoubtedly be developed that offers no risk to the patients. And to protect patients they may be given the right to see a doctor, no matter what the condition, when they insist.

Extending general practitioners' skills

If this arrangement is acceptable the stage might be set for the radical reconstruction of general practice. Experience in Canada,⁸ together with the trials now underway in Britain,⁹ suggests that nurse practitioners could relieve general practitioners of at least two thirds of their work, leaving them free for other duties. (In Britain, where the range of general practitioner care is narrower than in Canada, the proportion of work that a nurse practitioner can handle is probably higher than two thirds. In 1980 a Reading practice employed an American physician's assistant for eight weeks and he handled "75-80% of the work".) In what direction should general practitioners move? There is no easy answer to this question, and in attempts to deal with it all dogmatism should be dropped. Some doctors may wish to develop their skills along preventive lines, others may prefer to do minor surgery. Some may wish to deal more adequately with the home care of chronically sick patients; others may prefer to participate in the hospital treatment of acutely ill patients. A full flowering of general practitioners' skills should be encouraged with suitable financial incentives to stimulate the effort. General practitioners might evolve into consultants in primary care, gradually restricting their care to those who cannot be treated by nurse practitioners or other members of the practice team.

One general principle only might be applied to this development: whatever work a general practitioner does it should require a medical qualification. It does not make economic sense to have general practitioners do work that nurses and other members of the primary care team can handle. This is likely to be felt most keenly with regard to prevention. Though the scope for growth here is wide, many functions may be handled by ancillary workers. There may also be limits on minor surgery because in some areas it might be safer and more economical to let junior hospital doctors do the work rather than general practitioners, who are paid more.

The widest scope for general practitioner participation is likely to be in treating priority groups—particularly the mentally ill and the aged—and suitable training schemes can be devised to equip general practitioners for the work. The need is urgent because, as mental hospitals empty and a sharp increase in the number of people over 75 is expected, outreach programmes are poised for expansion. General practitioners must bridge the gap with the hospital and ease the pressure on services. General practice is in danger of being caught in a pincer movement with inroads on care being made both from the hospital and from members of the primary care team. To be secure general practitioners must move in a direction that nurses cannot follow and find tasks that hospital doctors and nurse practitioners cannot do as efficiently or as well.

Quality of care

I have deliberately said nothing about the quality of care because the most pressing problem in general practice today is to find a way of extending skills that is acceptable to all. I suspect that the problem of quality of care will largely solve itself. In any case the profession appears reluctant to tackle it. Despite repeated exhortations from leaders of the Royal College of General Practitioners, the profession has been reluctant to medical audit—or performance review, as the profession prefers to call it. After a decade of dithering by the college, the present chairman of its council, Donald Irvine, thought that it was time something was done and launched a quality initiative in 1983.¹⁰ To stimulate a favourable response council members displayed an admirable willingness to expose their own work to review, but 10 months later the college journal had to admit that the quality of general practice was in danger of being lost to plaincy, even among those of us who do already practise self-audit.¹¹⁻¹⁴

This failure has dire implications for the future of general

practice because ever since the link was broken in 1977 between seniority pay and attendance at postgraduate courses college leaders have had their backs to the wall in becoming the ones of continuing education.¹⁵ Thus general practitioners may educate each other rather than be taught by hospital consultants. But, in fact, many general practitioners are being educated by no one. According to David Penderon, only about 10% of general practitioners are now in continuing education.¹⁶ Yet a recent study published by the Royal College of General Practitioners cast serious doubt over how general practitioners treat seven common conditions, showing surprising gaps in clinical knowledge.¹⁷

Vocational training has been compulsory since 1981 and much has been claimed on its behalf, but no one—not even the leaders of the college—seems anxious to find out if it is worth the substantial sum it costs.¹⁸ The BMA finally called for an investigation, but medical leaders had good reason to hesitate because the study that dealt with the manner in which general practitioners treat seven common conditions revealed only minor differences in the gaps of knowledge displayed by trainers compared with other general practitioners.

But even if vocational training proves to be effective there is still the problem of making sure general practitioners keep up to date once their training is completed. In the United States family doctors who are board certified are retested every six years. In Britain there was recently a call to drop the examination required for membership of the college, and not from an envious "outsider," but from the college's former dean of studies, Jack Norrell, endorsed by the chairman of the college's education division, Marshall Marinker.¹⁹

Physical premises

Some progress has probably been made over the past decade in improving surgery premises, though we cannot be sure until all surgeries are inspected. To anyone who is concerned with public health it must be standard to discover that general practitioner surgeries have not been inspected properly since the panel system began in 1913. Local medical committees went through the motions in the 1950s (in response to the Collins report), and family practice committees make some effort with new premises. But out of the 30 000 general practitioners in Britain only 10% who are concerned in vocational training have had their premises rigorously examined.²⁰ Yet some surgeries of appalling standard may still be found,²¹ despite the liberal terms on which loans and improvement grants are made. Indeed, money is advanced with such generosity that we may soon approach the point where the sale of premises—or should I say, sale of premises—returns, without the financial burden once imposed. Through liberal loans and arrangements for sale and leaseback, together with rate and rent reimbursements, the state may supply all or nearly all the funds that a young doctor needs to buy or use the premises owned by an older partner, who is able to retire not only with superannuation benefits intact, but with a capital payment that could far exceed anything he or she was able to realise from savings. Nevertheless, this seems insufficient to persuade the profession to accept a compulsory retirement age.

List size

One direct attempt to tackle quality of care has come from the BMA, which wants to increase the number of general practitioners so that the number of patients on a list can be cut from an average of 2200 to 1700.²² This would permit more time for each patient and enable British general practitioners to take on the challenge of the six minute consultation which John Horder calls a "disgrace" as it seems to be the shortest, on average, in the developed world.²³ With signs of a surplus of doctors appearing, the moment could be ripe for change.

If this reform resulted in longer consultation time then there is much that might be said for it. Compared with practitioners elsewhere British general practitioners seem to make shabby diagnoses, not devoting enough time to physical examination. Even training practices, it seems, fail to record blood pressure often enough to monitor hypertension.²⁴ With fewer patients, however, doctors might take more care and accelerate the process of recovery.

There is no guarantee that this would actually happen because there is a long chain of causal connections here, none of which are certain. Even the first link in the chain—an increase in consultation time—may not be forthcoming. John Butler's pioneering study of the subject suggests that the time devoted to each patient is not affected by list size,²⁵ and this has been reinforced by the work of Wilkin and Metcalfe.²⁶ Perhaps the six minute consultation is so deeply rooted in British general practice that general practitioners cannot break free from the habit.

There is no indication that vocational training has altered the situation. In the early 1970s Donald Irvine conducted a survey of training practices and found that nearly a third consulted at the rate of 12 patients or more an hour.²⁷ Of even greater concern was a report issued in 1973 by the Scottish Home and Health Department, indicating that trainees were picking up the minute habit from their trainers.²⁸ To my knowledge, no further information has been published on the subject: the results of a study by the college in 1982, which attempted to assess the influence of trainers on trainees, did not mention the length of consultation.²⁹ If this still applies then it suggests that vocational training has become—at least in this one vital respect—a vehicle for transmitting undesirable clinical practices from one generation of doctors to the next.

One additional point that no Chancellor of the Exchequer could ignore is that the cost of reducing list size would be enormous: the addition of some 8000 doctors and a cost of over £300m.³⁰ No government would want to spend that amount of money without an assurance that it would receive something in return. This, however, might not be possible without an arrangement that would produce an unacceptable infringement on clinical freedom. If such large amounts of money are spent on general practice it may be better to concentrate them at points where the benefits may be clearly seen.

This programme aimed at extending the range of care looks attractive. If it is carried out in the way that I have suggested then the consultation time may be lengthened too. For the custom of the six minute consultation seems to be rooted largely in habits acquired while treating routine ailments. If patients who present with symptoms could be assigned elsewhere, general practitioners, like hospital doctors, could begin every consultation expecting that the patients they see may need more attention. The screening by nurse practitioners may be the means of only extending the range of care but of raising its quality as well.

Dependence on drug industry

The time is long overdue for a reappraisal of the profession's relationship with the pharmaceutical industry. Doctors are so used to the firm grip of drugs on their practice that it is difficult for their leaders to give disinterested advice. This applies particularly to general practice, and nowhere did it appear more clearly than in the incoherent reaction of general practitioners' spokesmen to the proposed restrictions on prescription drugs. Undoubtedly, some legitimate exceptions may be taken, but how can the public accept medical criticisms at

face value when so many of the profession's institutions—including the Royal College of General Practitioners—depend on help from pharmaceutical companies?³¹⁻³³ Until doctors free themselves from this financial bond they will find it difficult to avoid the label "the captive profession."

Conclusion

Many general practitioners are demoralised. They do not feel that general practice offers the opportunity to exercise skills that were laboriously acquired over nine years of study. They need relief from routine work that may be handled adequately by others. Nurse practitioners and other consultants, which John Horder calls a "disgrace" as it seems to be the shortest, on average, in the developed world.²³ With signs of a surplus of doctors appearing, the moment could be ripe for change.

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