'There's a lot of it about': clinical strategies in family practice

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SUMMARY. Is there a difference in the way family physicians and specialists deal with clinical problems? Family physicians, in contrast to specialists, work in a practice environment in which there is a high prevalence of symptomatic discomfort, but a low prevalence of frank disease. These circumstances result in clinical strategies that are very different to those used in secondary and tertiary levels of care, and which run counter to what are usually accepted as medical norms. The primary care physician must often diagnose what things are not, rather than what they are, must make management decisions prior to, or instead of, diagnostic decisions and must resist the temptation to be 'thorough'. These imperatives are reflected in the language family physicians sometimes use in their conversations with patients. Clinical reasoning in primary care involves important but poorly understood intellectual processes which may be of significance to all levels of medicine.

Introduction

SENIOR medical students, fresh from the esoteric environment of tertiary care medical wards, are usually sceptical when challenged with the notion that family practice demands a particular sort of intellectual ability. Certainly, the evidence to support such a point of view is sparse, despite repeated suggestions that the circumstances under which family physicians work have an effect on the clinical strategies they use.[1-3]

Two studies have been published that compare the diagnostic methods of primary care and specialist physicians. Smith and McWhinney[4] suggested that there were indeed differences, and reported that while family physicians asked fewer history questions and requested fewer items of physical examination, overall they asked proportionately more questions about life situations and mental illness. The researchers considered that these results were explained by the contrasting roles of the two types of physician. On the other hand, Barrows and colleagues[5] challenged the notion that family physicians use a unique cognitive strategy and commented '...we have obtained little direct evidence to suggest that the cognitive strategies of the two groups are markedly dissimilar'. They too found that family physicians spent less time and asked fewer questions than internists but said that this result was 'hardly surprising in view of their practice patterns'.

The two studies reached conflicting conclusions, but in many ways seem to reinforce a stereotype of the family physician as someone who is interested in patients as people, but who is forced to take shortcuts under the pressures of practice demands.

For many medical students, this view is reflected in the language used by family physicians. Variations of phrases such as 'I don't know what you've got, but whatever it is it's nothing serious', 'There's a lot of it about' and 'Take two aspirins and call me in the morning', seem to typify everything that is superficial, unscientific and unsatisfying in the discipline. The idea that such clichés also represent important intellectual processes that may have value in other clinical settings is often harder to grasp.

'I don't know what you've got...'

Early in a consultation the physician formulates diagnostic hunches or hypotheses,[5,6] which serve to direct and organize the clinical facts he collects.[7] Details that are unrelated to, or fail to substantiate, hypotheses that the clinician has in mind tend to be forgotten or ignored.[8] These diagnostic hunches come from the physician's background knowledge and link clinical observation to the taxonomy of medicine.[6] Feinstein defines clinical reasoning in these terms as 'a process of converting evidence into the names of diseases'.[9]

The family physician, however, is regularly confronted with problems that apparently defy classification. There may be occasions when the physician fails, and is unable to either collect or convert the available clinical evidence because of an error in the process. A physician giving a second opinion, to the first physician's chagrin, may be able to 'put it together' and produce an appropriate disease name.

More often, I suspect, it is language that fails rather than the doctor. In these cases the phrase 'I don't know what you've got...' signals not a loss of clinical ability but rather a loss of words when the medical taxonomy is insufficient to meet the needs of the situation.

Language has an essential but generally undervalued role in the diagnostic process. Words have a symbolic as well as a nominative function, naming thoughts as well as things. Thought is not merely expressed in language, but comes into existence through it. The physician's taxonomy not only names diagnostic hypotheses but plays a part in shaping them as well. Without such a symbol the thought is lost: 'I have forgotten the word I intended to say and my thought, unembodied, returns to the realm of shadows.'[10]

In patient care, biomedicine is the abstraction that is the focus for contemporary medical activities, providing both a theme for understanding patient problems and a language for its expression. At the centre of a conceptual abstraction words are simple, precise and readily available; at its boundaries they become confusing, extend into phrases and lose their meaning.[11] The centre of such a system is the position of greatest comfort and certainty; the boundary can become acutely uncomfortable as it approaches the categorical limits of knowledge.

Family practice is central to medicine in the sense that a major proportion of patient care takes place in that environment, but it is none the less a peripheral discipline in the sense implied by Marinker. He comments that family physicians live 'on the boundary between the concepts of health and illness; between the perspectives of psychology and sociology; between the history of the patient and his own future; between the concepts of "cure" and "care".'[12]

The absence of words, that is disease categories, to cover large areas of symptomatology presenting at these boundaries imposes severe strains on the clinician's ability to think. The family physician at a loss for words is also at a loss for hypotheses, and risks being left empty-headed as well as empty-handed.

Such situations often call for confidence and panache. Kessel[13] gives an example of how one eminent medical man explained such a dilemma to his patient. 'You want to know what's wrong. Well, it's not a condition to which we doctors can yet exactly put a name. But I want you to know this. You've come to the very best man in Britain for it.'

Usually, the physician abhors such a diagnostic vacuum. He may try to force symptomatic square pegs into diagnostic round holes and thus manage to frame his hunches in the language of biomedicine despite persisting inconsistencies. He may choose to borrow liberally from other conceptual models and perhaps reformulate the problem in psychological or sociological terms, although this requires a familiarity with the ideas and language of other disciplines.

However, if it is not possible to reach the solution using such violent or eclectic approaches, the alternative may be to stand the problem on its head and decide what it is not, rather than what it is.

'...but whatever it is, it's nothing serious'

The family physician, it is said, needs to be able to tolerate ambiguity and uncertainty, and what Crombie[1] called the 'eliminative diagnosis' seems to have its share of both.

Meador[14] introduced the idea of an art and science of non-disease. He proposed that a non-disease exists when a specific disease is suspected on the basis of symptoms and signs, but when investigation fails to substantiate the original diagnosis. Scott[15] takes the idea of non-disease more seriously and much further. He comments, 'If a diagnosis were to be thought of, not as the label of a disease but as a mental construct by means of which data are ordered and remembered, that is, as an invention whose utility is to be judged by the degree to which clinical thinking is facilitated, it would become reasonable to develop diagnoses to cover larger areas of clinical phenomenology.' He suggests that the use of non-diseases would enable the physician to make more accurate diagnoses by providing categories into which patients with a variety of vague or normal discomforts may be fitted.

'Non-diseases', then, have the potential to provide answers to the inevitable question 'if it's not serious, then what is it?' and provide a convenient label for both physician and patients.

The family physician employs a wide range of non-disease names — diagnostic black boxes that apparently explain problems as long as one does not enquire into the mechanism too closely. Not only do they help identify otherwise unidentifiable disorders, but like all good diagnoses they help point the way to appropriate intervention — or to be more correct in these cases, non-intervention. 'It's a virus', proclaims a disorder that is non-bacterial, and does not require antibiotics. 'Sprains' identify cases of non-fracture that do not require X-rays or splints, 'costochronditis' deals with central chest pain that is non-myocardial infarction and so does not need a cardiac monitor, 'fibrositis' is non-rheumatoid arthritis in which steroid-like drugs may not be necessary, and 'mesenteric adenitis' is abdominal pain that does not require an appendectomy.

'There's a lot of it about'

There is another compelling reason why it makes problem-solving sense for family physicians to use non-disease categories, and that is because there is a lot of non-disease about. In the primary care setting the prevalence of serious disease in the population is low, while the prevalence of symptomatic discomfort is high.

Once a diagnostic hypothesis has been formed, evidence is sought to test it. In general it seems that positive attributes are accepted more readily and managed more easily than negative ones. Positive evidence is generally more compelling[6] and this is a problem-solving phenomenon that has been remarked on both inside[2] and outside[16] the medical field.

An hypothesis is tested by asking the patient questions. Questions, then, act as verbal diagnostic tests and are subject to the same vagaries as laboratory investigations. Each test — be it verbal or biochemical — has values of sensitivity (the ability to detect disease when it is present) and specificity (the ability to correctly identify the absence of disease).

Sensitivity and specificity are test values that remain stable, but in contrast the predictive value of a test varies with the prevalence of the condition under investigation. Under conditions of low prevalence even a 'good' test that is both sensitive and specific will have a poor positive predictive value (in other words, a poor ability to predict or 'rule in' disease) and a high negative predictive value (a good ability to 'rule out' disease).

Wiegert and Wiegert[17] give the example of a commonly used blood test for infectious mononucleosis. According to the manufacturer the test has a sensitivity of 95% and a specificity of 95%. The test was described in a setting where the prevalence of mononucleosis was 45% (64 patients with the disease and 79 controls without evidence of the disease), and the positive predictive value of a positive test is thus 94%. Under primary care conditions — where the prevalence of mononucleosis in a series of patients with symptoms compatible with the disease is 6.1%[18] — the positive predictive value of the test falls to 55%, and the prediction of disease on the basis of a positive test alone will be incorrect 45% of the time. By contrast, the negative predictive value of the test under these circumstances is very high, and a negative test will correctly predict the absence of disease 99.6% of the time.

Few laboratory tests or clinical questions will have such high values of sensitivity and specificity, and so a clinical question that elicits a positive response may be a poor predictor of the presence of disease, but because problem-solvers have difficulty in handling negative information, it may be difficult for useful negative responses to be incorporated during a continuing quest for positive data.

If, however, the problem has been changed from the diagnosis of 'disease' to that of 'non-disease' then the prevalence values, as well as the diagnostic categories, are stood upon their head. Now there really is 'a lot of it about', and with a high prevalence of symptomatic non-disease in the community, questions to confirm a non-disease hypothesis have a high positive predictive value.

Both the physician and the patient may find comfort in the fact that 'there's a lot of it about'. The physician may derive some intellectual comfort from knowing that the mathematics of the situation are on his side. For the patient the benefits may be more personal. Robert Morley, the British humourist, once wrote[13] 'There is a lot to be said for the country surgery which I patronise...Both partners employ a phase in consultation of which I am particularly fond and which I always find immensely reassuring. Whether it is pink eye, incipient tonsillitis, an ingrowing toenail, or high blood pressure from which I believe myself to be suffering, they allay my anxiety with a simple statement that there is a lot of it about. I find it so comforting to realise that most of the inhabitants of my village...are currently fighting the same dread symptoms.'

'Take two aspirins...'

As long ago as 1950[19] a working party of the College of General Practitioners reported that nearly one half of all illnesses were treated by general practitioners without the benefit of a firm diagnosis. Both Crombie[1] and McWhinney[2] have pointed out that in family practice 'diagnosis', if it is understood as

disease categorization, is not necessarily the finale of clinical reasoning.

In 1974 Howie,[20] using a series of simulated patient consultations, studied how family physicians made diagnostic and management decisions in respiratory illness. He demonstrated that in family practice the conventional teaching that a diagnostic decision precedes a management decision does not always hold true. He showed that decisions on management might be made independently of decisions on diagnosis, that the information required was qualitatively different, and also that less information was needed for a management decision.

In most medical discourse, including the literature on problem-solving, diagnosis as the naming of disease is the conventional end-point of clinical reasoning. Dudley[21] commented on this normative view of diagnosis and proposed an alternative, defining diagnosis in terms of utility rather than pathology as 'the substance of a decision upon which action is based at any point in the patient's course'.

Under the circumstances of family practice phrases such as 'Take two aspirins..' should not necessarily be understood as a cliché describing the therapeutic excesses of the diagnostically destitute. It may represent another laudable manoeuvre to solve the apparently insoluble by providing a management rather than a disease-naming diagnosis, and in Dudley's terms substituting utility for pathology.

Such management diagnoses may be an intermediate step in the continuing search for a disease name. It may become obvious during an encounter that naming the patient's disease, while desirable, is not possible. Management decisions may then be used both to cope with the patient's symptoms, and to help establish the cause of the patient's problem. Treatment with indomethacin may help establish if a painful joint is due to gout, treatment with antihypertensives may help discriminate between essential and secondary hypertension, treatment with antidepressants may help decide if the patient is indeed suffering from endogenous depression. 'If it gets better with X, then it must have been Y' is a diagnostic strategy that makes sense at the primary care level, even if it does not often find its way into the textbooks. Equally useful information may be gained if the symptoms do not respond to treatment, as this helps generate additional disease-naming hypotheses — 'If it doesn't get better with X, then it might be Z.'

On the other hand, the physician may decide that naming the patient's disease is not only not possible but also not useful, because it will make no difference to treatment or outcome. Under these circumstances it may help to reframe the problem and deal with it solely as a 'management naming' rather than a 'disease naming' exercise. With this change in reference, the physician will generate management rather than disease hypotheses, and will collect the different set of data required to make a management diagnosis. If they are used at all, disease labels will be attached retrospectively, and serve only to justify the decision that was made. 'If I treated it with X, then it must have been Y.' 'Acute bronchitis' was the fifth most common illness in the Virginia study[22] of diagnoses in family practice. It is unlikely that acute bronchitis is really the fifth most common problem in the USA — it is more likely that acute bronchitis is the most useful label available to retrospectively justify a decision to treat respiratory symptoms with antibiotics.

Such exploratory management strategies help make the link between understanding things and changing them. The practitioner is not involved in an abstract exercise, for in a very real way his relationship to the situation is transactional. In Schon's words[23] '...the action by which he tests his hypothesis is also a move by which he tries to effect a desired change in the situation and a probe by which he explores it. He understands the situation by trying to change it, and considers the resulting changes not as a defect of experimental method but as the essence of its success.'

'...and call me in the morning'

When the problem-solving strategies of family physicians and specialists are studied, a consistent difference seems to be that the former ask fewer questions and spend less time dealing with problems.[4,5] Barrows and colleagues cited the different practice patterns of the two groups as the reason for this discrepancy. Indeed the unspoken implication is often that were they to have the luxury of more time with their patients, family physicians might be more thorough, ask more and better questions, and get things right the first time, instead of having to cut the patient off and asking him to return at a later date.

On the other hand, rather than family physicians being forced into a particular consulting behaviour by the pressures of time and patients, it may be that exactly the opposite is true and that the problem-solving strategies appropriate to family practice allow a higher volume of patients to be seen.

There are at least two good reasons why repeated short consultations make sense in the family practice setting. The sort of diagnoses the family physician makes — for example, the eliminative diagnosis of 'what it's not' — require a few high utility questions. It makes no sense to ask a lot of history questions that will make no difference to the outcome of the consultation. At the primary care level especially the range of possible data for collection is immense and this can lead to problems — 'Another reason why doctors from time to time make erroneous diagnoses is simply because they are totally unable to handle the volume of data which they elicit from patients ... the human being behaves like an information system of limited channel capacity ... unless a doctor can select the relevant items of most useful information from an overall picture, he will easily be overwhelmed with data.'[24]

More is not necessarily better, and test reduction is a goal worth pursuing in diagnostic as well as economic terms.[25] Restricting the time spent with a patient and collecting pieces of information over several visits are ways of reducing the amount of data to be dealt with at any one time.

In the second place, as has already been noted, the family physician is working in an environment where the prevalence of serious disease is low, and delay may be used as a deliberate strategy to change the probability of disease and hence the predictive value of the clinician's questions.

Diagnosis is a matter not of certainty but probability.[26] Patients who see specialists tend to have gone through a referral filter, which has a dramatic effect on the prior probability of disease in patients seen at the secondary care level. The specialist may see patients in whom the prevalence of disease is over 10 times greater than in patients seen at the primary level, and this will have correspondingly dramatic effects on the predictive value of the clinical questions and investigations employed.

To help categorize patients into groups with higher and lower probabilities of significant disease the family physician also needs to use manoeuvres to 'filter' his patients, one of which is to set up a delay and ask the patient to initiate a return visit if he thinks it is necessary.

Thomas[27] reported a study of 3848 consultations in general practice. In 1656 consultations no diagnosis could be made. These patients received no effective treatment although most were given a placebo, and all were asked to return if they did not feel better; 1191 patients — 72% of the undiagnosed group — did not return. A sample of these non-returning patients was followed up; 82% of them said that they were better, while a further 11% said that although they were not better, they had

not sought further treatment. In this study, then, the manoeuvres of symptomatic treatment and delay reduced by some 72% the number of patients seeking treatment. In most cases the patient's symptoms settled spontaneously, and in some patients the consultation seemed to relieve the patient's concern even though the symptoms persisted.

Delay, then, is another management strategy used to explore a situation. By reducing the proportion of patients with transient illness, the probability of more serious illness in the group of patients who continue to complain may be increased. If so, the positive predictive value of the same questions asked by the physicians at the second or subsequent encounters will also be increased.

Conclusion

While phrases such as 'whatever it is, it's nothing serious', 'there's a lot of it about' and 'take two aspirins and call me in the morning' have become clichés in family practice, they have something to say about the clinical reasoning process that gives rise to them.

Two other pervasive clichés are those of the specialist as a single-minded biomedical scientist and the family physician as the simple humanist who prefers action to words. If there is a difference between the cognitive styles of family physicians and specialists it is less a question of their nature than of the environment in which they are nurtured. It is likely to be the domain of the problem that places demands on problem-solvers and determines the skills they need,[25] even though there may be some element of self-selection in people who do or do not enjoy working in a particular field. If problem-solving is a process that is adaptive to the way people think, it would be surprising if it were not also adaptable to what they have to think about.

The environment of family practice, with its high prevalence of symptomatic discomfort but relatively low prevalence of frank disease, demands a particular set of diagnostic strategies that apparently run counter to those that are appropriate at secondary and tertiary levels of care. The family physician must often diagnose what things are not, rather than what they are; must sometimes make management decisions before, or instead of, disease decisions; and must frequently ignore the temptation to be thorough.

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