

Symptom interpretation in general practice

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WHEN an individual becomes aware of some deviation from normal health, he is free to consult his general practitioner. Whether or not he takes this step depends on two main factors. The first, and the most frequently considered in medical education is the severity of the noxious experience which the individual undergoes and which is often related to the nature of the pathology. The second is the individual's response to stress which depends on many factors, including his personality, the supporting resources in his immediate environment and the accessibility of medical care. In the primary care, the second factor is often as important as the first and must influence the diagnosis in terms of probability.

In the diagnostic situation in hospital, the disease process has already been acknowledged by the general practitioner as requiring specialist advice and the diagnostic probabilities are inevitably changed. In studying general practice, it is therefore important to assess how the diagnostic probabilities based on specialist experience of symptoms should be modified. Some common symptoms in general practice have been studied in this way.

Method

The results of any study of symptoms will be influenced by the definition and classification of a presenting symptom and the clinical situation in which it was recorded. The definitions used in this study have been described (Morrell *et al.*, 1970) and are included in the appendix. The analysis here covers 5,325 new symptoms presented by 4,455 patients at 21,098 consultations during a period of one year (Morrell *et al.*, 1971). The diagnoses recorded represent the doctor's interpretation in pathological terms of the patient's symptom, at the particular consultation at which that symptom was presented. When the doctor could not reach a precise diagnosis, he was encouraged to report a symptomatic diagnosis. He was also asked to record his diagnostic confidence.

Fourteen of the commonest symptoms were analysed by age and sex of the patients (tables I and II.) The diagnoses recorded for each symptom were coded according to the College of General Practitioners' (1963) modification of the *International Classification of Diseases Index*. A record has also been made of the total number of diagnostic categories used in respect of each symptom, as this reflects the spectrum of disease which appeared relevant in the diagnosis of these symptoms and may partly reflect the extent of the clinical problems. For the commonest symptoms, the social class distribution has been recorded. The extent to which patients at the first time of presenting the symptom were examined, investigated, referred to hospital, and to which prescriptions were issued in response to the symptom, has also been analysed.

1. Cough

This was the commonest symptom and was recorded on 527 occasions in 287 females and 240 males; a female to male ratio of 1.2 to 1. The proportion of females to males in the practice was 1.1 to 1. The highest rate was recorded in the age group 0-4 years (tables I and II), and the rate in this age group was twice that recorded in any other age group. The rate for males was higher than for females under the age of 15

TABLE I
DISTRIBUTION BY AGE GROUPS OF 14 COMMON SYMPTOMS (MALES)

Symptom	Number of consultations and rate per 1000 patients at risk														Male	
	0-4 years		5-14 years		15-24 years		25-44 years		45-64 years		Over 65 years		Total	Number		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
1 Cough	49	267	46	160	27	94	48	81	57	100	13	61	240			
2 Rashes	37	202	27	94	22	76	17	28	25	43	9	42	127			
3 Pain in throat	8	43	25	87	32	111	37	62	19	33	4	18	125			
4 Abdominal pain	4	21	20	69	14	48	16	27	29	50	10	47	95			
5 Disturbance of bowel function	30	163	9	31	16	55	16	27	16	28	5	23	92			
6 Spots, sores and ulcers	11	60	31	108	15	52	7	11	12	21	3	14	78			
7 Back pain	1	5	3	10	10	34	27	45	31	54	10	47	82			
8 Chest pain	0	0	5	17	13	45	28	47	31	54	6	28	83			
9 Headache	1	5	15	52	15	52	19	32	14	24	6	28	70			
10 Joint pain	1	5	8	27	8	27	23	39	18	31	8	37	66			
11 Disturbance of gastric function	19	103	8	27	8	27	15	25	6	10	5	23	61			
12 Changes in balance	0	0	3	10	5	17	3	5	7	12	4	18	22			
13 Disturbance of breathing	1	5	2	7	9	31	7	11	9	15	4	18	30			
14 Changes of energy	0	0	3	10	1	3	6	10	2	3	3	4	15			

TABLE II
DISTRIBUTION BY AGE GROUPS OF 14 COMMON SYMPTOMS (FEMALE)

Symptom	Number of consultations and rate per 1000 patients at risk										Female		
	0-4 years		5-14 years		15-24 years		25-44 years		45-64 years		Over 65 years		Total
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number
1 Cough	51	238	34	113	37	100	65	115	65	111	35	108	287
2 Rashes	44	205	35	116	35	102	18	32	19	32	14	43	165
3 Sore throat	8	37	34	113	46	134	48	85	22	37	4	12	162
4 Abdominal pain	9	42	20	66	21	61	24	42	19	32	11	33	102
5 Disturbance of bowel function	12	60	11	36	13	38	25	44	23	39	9	27	93
6 Spots, sores and ulcers	11	50	30	100	31	91	17	30	11	18	3	9	103
7 Back pain	1	5	5	16	13	38	25	44	31	52	15	46	90
8 Chest pain	0	0	2	6	15	43	25	44	30	51	13	40	85
9 Headache	3	14	11	36	22	64	22	39	26	44	5	15	79
10 Joint pain	0	0	4	13	11	32	13	23	32	54	15	46	75
11 Disturbance of gastric function	23	107	15	50	12	35	14	24	11	18	5	15	80
12 Changes in balance	1	5	5	16	8	23	13	23	12	20	13	40	43
13 Disturbance of breathing	6	28	1	3	6	17	4	7	5	8	7	21	29
14 Changes in energy	0	0	1	3	7	20	18	32	12	20	5	15	43

years, but thereafter higher rates were recorded in females. Analysis by social class revealed the highest rates in social class III and the lowest in social classes I and II.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Acute bronchitis	190
Common cold	185
Influenza	35
Chronic bronchitis	33
Laryngitis and tracheitis	31
Pneumonia	10
Whooping cough	4
Others	39
Total	527

Total number of diagnostic categories used = 23

At 83 per cent of consultations the patient was examined, and at ten per cent two or more systems of the body were examined. At 76 per cent of consultations the doctors recorded diagnostic confidence as presumptive (table III). At 0.4 per cent of consultations the patient was referred to hospital; at 3 per cent investigations were carried out, and at 97 per cent a prescription was issued (table III).

2. Rashes

A rash was the complaint at 302 consultations. It was presented by 165 females and 137 males, giving a ratio of 1.2 to 1. The rate recorded for children under the age of five years was nearly double that in any other age group. The rate for females aged 5-24 years was higher than for males, but thereafter there was little sex difference. Analysis by social class revealed the highest rates in social class III.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Allergic dermatoses	46
Rubella	44
Dermatitis including contact dermatitis	42
Eczema	39
Dermatophytosis	12
Herpes zoster	11
Psoriasis	10
Scarlet fever	9
Impetigo	8
Chickenpox	7
Acne	6
Others	68
Total	302

Total number of diagnostic categories used = 31

At 98 per cent of consultations the patient was examined, two or more systems of the body were tested in five per cent. A presumptive level of diagnostic confidence was recorded at 65 per cent. Investigations were conducted at 0.3 per cent of consultations, at 1.0 per cent the patient was referred to hospital, and at 79 per cent a prescription was issued.

3. Sore throat

This symptom was recorded on 287 occasions in 162 females and 125 males. The highest rate was recorded in females aged 15-24 years, followed by girls aged 5-14 and males in the same age group. There was little social class difference in the presentation of this symptom.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Tonsillitis	212
Common cold	32
Laryngitis and tracheitis	12
Influenza	8
Psychiatric disorders	5
Others	18
Total	287

Total number of diagnostic categories used = 15

The patient was examined at 95 per cent of consultations including, in three per cent, two or more systems of the body. A diagnostic certainty of presumptive was recorded at 89 per cent of consultations. At 1.7 per cent of consultations investigations were carried out. No patients were referred to hospital. At 95 per cent of consultations a prescription was issued.

4. *Abdominal pain*

This symptom was recorded on 197 occasions and presented by 104 females and 93 males. The highest rates were recorded in boys and girls aged 5–14 years, but this symptom was one of the most evenly distributed through the age groups and between social classes.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Colic	36
Sprains and strains	22
Peptic ulcer	15
Disorders of gastric function	15
Other diseases of intestines and peritoneum	15
Other diseases of stomach and duodenum	13
Psychiatric disorders	14
Appendicitis	8
Pyelonephritis and cystitis	8
Tonsillitis	3
Malignant neoplasms	2
Others	46
Total	197

Total number of diagnostic categories used = 44

At 95 per cent of consultations one system of the body, and at 35 per cent, two or more systems were examined. The diagnostic confidence was recorded as presumptive at only 21 per cent of consultations for this symptom. Investigations were carried out at 5.6 per cent of consultations and at 7.6 per cent the patient was referred to hospital. A prescription was issued at 75 per cent of consultations.

5. *Disturbance of bowel function*

This symptom was recorded at 187 consultations and presented by 94 females and 93 males. The highest rates were recorded in children under the age of five years. Apart from this age group, the symptom was evenly distributed between age, sex and social classes.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Symptomatic diagnosis (diarrhoea)	60
Symptomatic diagnosis (constipation)	12
Other diseases of the intestine and peritoneum	55
Psychiatric disorders	4
Others	56
Total	187

Total number of diagnostic categories used = 23

At 57 per cent of consultations the patient was examined and at seven per cent this involved two or more systems of the body. Investigations were conducted at 2.7 per cent of consultations and at 1.1 per cent the patient was referred to hospital. A diagnostic confidence at presumptive level was recorded at 12 per cent of consultations. At 89 per cent, a prescription was issued.

6. Spots, sores and ulcers

This group of symptoms was recorded at 182 consultations in 103 females and 79 males. The highest rates were recorded in both sexes between the ages of 5-14 years. Between 15-44 much higher rates were recorded for females than for males. This group of symptoms was very rare over the age of 65 years.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Impetigo	26
Boil or carbuncle	21
Diseases of sweat or sebaceous glands	21
Lacerations	15
Chickenpox	13
Warts	12
Others	74
Total	182

Total number of diagnostic categories used = 36

At 98 per cent of consultations, the patient was examined, but this involved more than one system of the body in only one per cent. At 81 per cent of consultations the diagnostic confidence was recorded as presumptive. On no occasions were investigations carried out, at 0.6 per cent of consultations the patient was referred to hospital, and at 82 per cent a prescription was issued.

7. Back pain

This symptom was recorded on 172 occasions in 90 females and 82 males. It was uncommon under the age of 25 years and the highest rates were recorded in both males and females between 45 and 64 years. Apart from 'cough' it was the commonest symptom in patients over 65 years. It was seen most often in patients in social class III and the lowest rates were recorded in social classes I and II.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Sprains and strains	74
Fibrositis and muscular rheumatism	35
Prolapsed intervertebral disc	14
Lumbago	9
Superficial injuries and contusions	7
Osteoarthritis	4
Psychiatric disorders	3
Others	26
Total	172

Total number of diagnostic categories used = 26

At 95 per cent of consultations the patient was examined and this involved two or more systems at 12 per cent. The diagnostic confidence was recorded as presumptive at 40 per cent of consultations. At 8.1 per cent of consultations investigations were carried out. No patients were referred to hospital. A prescription was issued at 80 per cent of consultations.

8. *Chest pain*

This symptom was recorded at 168 consultations in 85 females and 83 males. It was rare under the age of 15 years and the highest rates were recorded in the age groups 45-64 years, with little difference between the sexes. There was no difference in the rates between the social classes.

The diagnoses recorded most often were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Fibrositis and muscular rheumatism	26
Sprains and strains	19
Psychiatric disorders	14
Pleurisy	13
Acute bronchitis	12
Diseases of the buccal cavity and oesophagus	11
Contusions and superficial abrasions	9
Laryngitis and tracheitis	7
Pneumonia	7
Coronary thrombosis	5
Others	45
Total	168

Total number of diagnostic categories used = 35

At 99 per cent of consultations the patient was examined, two or more systems of the body being examined at 33 per cent. Diagnostic confidence was recorded as presumptive at 49 per cent of the consultations. At 9.5 per cent of consultations investigations were carried out, at 4.8 per cent the patient was referred to hospital and at 81 per cent a prescription was issued.

9. *Headache*

This symptom was recorded on 159 occasions, in 89 females and 70 males. It was rare under the age of five years. The highest rates occurred in both males and females between the ages of 5-24 years. Between 15 and 64 years higher rates were recorded by patients in social classes III, IV, and V than in social classes I and II.

The commonest diagnoses were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Psychiatric disorders	31
Acute sinusitis	26
Migraine	19
Tonsillitis	12
Common cold	6
Influenza	3
Benign hypertension	3
Refractive errors	2
Others	57
Total	159

Total number of diagnostic categories used = 31

At 88 per cent of consultations the patient was examined and this involved examination of two or more systems at 33 per cent. A level of diagnostic confidence of presumptive was recorded in 32 per cent of consultations. At 3.8 per cent of consultations

investigations were carried out, and at 1.9 per cent the patient was referred to hospital. A prescription was issued at 73 per cent of consultations.

10. *Joint pains*

This symptom was recorded on 141 occasions, in 75 females and 66 males. The highest rates were recorded in females over the age of 45 years. Between the ages of five and 44 years, higher rates were recorded in males than in females. This symptom was recorded more frequently in social classes III, IV and V than in social classes I and II.

The commonest diagnoses were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Sprains and strains	25
Osteoarthrosis	25
Arthritis (unspecified)	17
Contusions and superficial abrasions	14
Fibrositis and muscular rheumatism	6
Rheumatoid arthritis	5
Synovitis	5
Psychiatric disorders	3
Gout	3
Others	38
Total	141

At 99 per cent of consultations the patient was examined, and at five per cent two or more systems of the body were examined. The confidence of diagnosis was recorded as presumptive at 45 per cent of the consultations. Investigations were carried out at 13.5 per cent of consultations, patients referred to hospital at 5.0 per cent and a prescription issued at 70 per cent.

11. *Disturbance of gastric function*

This symptom was recorded on 141 occasions and presented by 80 females and 61 males. The highest rates occurred in patients under the age of five years in which the symptom was twice as common as in any other age group. This symptom became less common with increasing age. The highest rate of presentation of this symptom occurred in patients in social classes I and II.

The commonest diagnoses were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Other diseases of the stomach and duodenum	44
Symptomatic diagnosis (vomiting)	25
Other diseases of the intestine and peritoneum	10
Disorders of gastric function	9
Tonsillitis	8
Common cold	6
Psychiatric disorders	6
Pregnancy	3
Others	30
Total	141

Total number of diagnostic categories used = 28

At 76 per cent of the consultations for this symptom the patient was examined and at 20 per cent two or more systems of the body were examined. The level of diagnostic confidence was recorded as presumptive at 26 per cent of consultations, and at 30 per cent did not progress beyond a symptomatic level. Investigations were carried out at 0.7 per cent of consultations, the patient referred to hospital at 1.4 per cent, and a prescription issued at 79 per cent.

12. *Disturbance of balance*

This symptom was recorded at 74 consultations in 52 females and 22 males, thus

showing a very marked female preponderance. The highest rates were recorded in females over the age of 65 years and the rate for females was higher than the rate for males in all age groups. The commonest diagnoses were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Symptomatic diagnosis (vertigo)	17
Psychiatric disorder	16
Vascular lesion of the CNS	5
Benign hypertension	4
Menière's disease	2
Motion sickness	2
Wax in the ears	2
Others	26
Total	74

Total number of diagnostic categories used = 28

At 90 per cent of consultations the patient was examined, and at 39 per cent this involved two or more systems of the body. A level of diagnostic confidence of presumptive was recorded at 31 per cent of consultations. Investigations were carried out at 8.1 per cent of consultations, at 2.7 per cent the patient was referred to hospital and a prescription was issued at 66 per cent of consultations.

13. *Changes in energy and tiredness*

This symptom was recorded on 58 occasions in 43 females and 15 males, thus showing a marked female preponderance. The highest rates were recorded in females between the ages of 15 and 64 years. The commonest diagnoses were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Psychiatric disorder	30
Hypochromic anaemia	4
Common cold	3
Influenza	3
Pregnancy	2
Others	16
Total	58

Total number of diagnostic categories used = 20

At 74 per cent of the consultations the patient was examined, at 17 per cent this involved two or more systems of the body. A presumptive level of diagnostic confidence was recorded at 42 per cent of consultations. At 22 per cent of consultations investigations were carried out, at 1.7 per cent the patient was referred to hospital and at 69 per cent a prescription was issued.

14. *Disturbance of breathing*

This symptom was recorded at 61 consultations and presented by 29 females and 32 males. The highest rates were recorded in males aged 15-24 years and in both males and females over the age of 65 years. The commonest diagnoses were:

<i>Diagnosis</i>	<i>Number of consultations</i>
Acute bronchitis	16
Common cold	13
Chronic bronchitis	7
Psychiatric disorders	5
Asthma	3
Hypochromic anaemia	2
Benign hypertension	2
Others	13
Total	61

Total number of diagnostic categories used = 16

At 99 per cent of consultations the patient was examined and at 20 per cent this involved two or more systems of the body. The level of diagnostic confidence was recorded as presumptive at 75 per cent of consultations. At 3·3 per cent of consultations an investigation was undertaken, at 6·6 per cent the patient was referred to hospital and a prescription was issued at 90 per cent of consultations.

Discussion

It is possible to look at the symptoms presented in general practice in a variety of ways.

In terms of frequency of presentation, pain is by far the most common way in which patients present their illness to the general practitioner. Of the many sites of pain recorded in this study, the throat was the most frequent site, usually presented as a 'sore throat'. The other common presenting symptoms included changes in the skin, for example rashes, cough, and disturbances of gastro-intestinal function.

When the symptoms were analysed by age, it was apparent that very large numbers concerned children under the age of five years. In this age group abnormalities observable by the parent were particularly prevalent and included cough, rashes and disturbances of gastro-intestinal function. Predictably, pain was uncommon at this age. Between the ages of five and 24, pain in the throat, head and abdomen, and the symptoms referable to skin disorders were particularly common. Between 25 and 64, the highest rates of recording of pain in the back, chest and joints occurred. Over the age of 65, pain in the back and pain in the joints were two of the most commonly recorded symptoms. Throughout all age groups cough was a prominent symptom.

During the study year, women had more symptoms than men. Apart from the symptoms associated with menstrual abnormalities and urinary infections, the female preponderance is particularly associated with disturbances of psychological function. Rashes, pain in the throat, spots, disturbances of gastric function and some less common symptoms, such as changes in energy and balance occurred more in women.

Very few of the symptoms studied were related to social class, but pains in the head, back and joints were more common in the lower than in the higher social class.

This analysis of symptoms by age, sex and social class raises interesting questions about symptomatology in general practice. Do the symptoms presented reflect the prevalence of disease in the community? The frequency with which such symptoms as cough and disturbances of bowel function are presented under the age of five years may reflect a high prevalence of acute infection in children in this age group. It may, however, also be interpreted as due to the concentration of symptoms in this age group to abnormalities observable by the parents, while subjective symptomatology is largely unexpressed by the child and thus such symptoms as pain are relatively rare. Equally, the frequency of symptoms in this age group could be due to a low threshold of tolerance in parents of abnormalities in their children which they would be prepared to tolerate in themselves.

This last concept is relevant in the age distribution of such symptoms as spots, and in the social class distribution of pain in the back and joints. Very high rates were recorded for the presentation of spots in males and females aged 5-14 years, which may be associated with such conditions as chickenpox and impetigo in early school years. Between the ages of 15 and 44, however, women exhibit much higher rates for this symptom than men. Does this reflect the female intolerance of skin blemishes, rather than a true difference in prevalence? Similarly, the relationship between pain in the back and pain in the joints in the lower social classes may be related either to the greater exposure of these groups to trauma or their inability, when subjected to pain, to pursue physically demanding employment.

This raises the whole question of the patient's threshold for medical demand in

terms of the individual's performance in relation to his expectations. It is difficult to believe, as was found in this study, that disturbances of hearing are more common in the age groups 45-64 than over the age of 65 years, or that disturbances of breathing are more common between the ages of 15 and 24 than over the age of 45. It seems much more likely that the patient's expectations in terms of hearing and shortness of breath become much lower with increasing age and minor deviations from normal are tolerated.

Finally, the ease of access to medical care may influence the age-sex pattern of symptom presentation. Women in the child bearing age groups present more symptoms than men of the same age. In their maternal role, they have much greater access to the doctor and through the relationship they can thus develop with him, they may feel freer to present symptoms and have the time and opportunity to do so.

It seems highly probable from studying these results that symptom presentation is related not only to the prevalence of disease but to human behaviour in response to disease and this indicates areas of research and educational endeavour which are highly relevant to general practice.

Diagnostic precision

Looking at symptoms in terms of the diagnosis recorded reveals wide variations in the precision expressed by the diagnostic label applied. This precision of the label is reflected in the level of diagnostic confidence recorded by the doctors. In, for instance, the symptoms of the skin and respiratory tract, precise diagnoses were recorded at between 60 and 90 per cent of consultations. In contrast, in the symptoms of pain in the abdomen and symptoms of gastro-intestinal disturbance, the diagnosis was imprecise and the presumptive level of confidence was recorded in less than 30 per cent of consultations. There was no correlation between the level of diagnostic confidence expressed and the number of diagnostic categories used, so that the sheer size of the spectrum of possible diagnoses does not appear to play an important part in the confidence or precision with which the doctor records his diagnosis.

TABLE III
ANALYSIS OF 14 COMMON SYMPTOMS BY DIAGNOSTIC CONFIDENCE AND EXAMINATION PERFORMED

Symptom	Diagnostic confidence (per cent)			Number of systems examined (per cent)		
	Symptomatic	Provisional	Presumptive	No examination	One system	Two or more systems
1 Cough	4	20	76	17	73	10
2 Rashes	7	28	65	2	93	5
3 Sore throat	2	9	89	5	92	3
4 Abdominal pain	18	60	21	5	60	35
5 Disturbance of bowel function	46	41	12	43	50	7
6 Spots, sores and ulcers	2	17	81	2	97	1
7 Back pain	8	52	40	5	83	12
8 Chest pain	7	44	49	1	66	33
9 Head pain	14	53	32	10	57	33
10 Joint pain	7	48	45	1	94	5
11 Disturbance of gastric function	30	44	26	24	56	20
12 Changes in balance	19	50	31	10	51	39
13 Disturbance of breathing	2	23	75	1	79	20
14 Changes in energy	5	52	41	26	57	17

TABLE IV
SYMPTOM ANALYSIS BY INVESTIGATION, REFERRAL, AND PRESCRIPTION

<i>Symptoms</i>	<i>Percentage of consultations</i>		
	<i>Investigation</i>	<i>Referral to hospital</i>	<i>Prescription</i>
1 Cough	2.9	0.4	97.3
2 Rash	0.3	1.0	79.1
3 Sore throat	1.7	0.0	95.1
4 Abdominal pain	5.6	7.6	73.1
5 Disturbance of bowel function	2.7	1.1	88.8
6 Spots, sores and ulcers	0.0	0.6	82.4
7 Back pain	8.1	0.0	88.4
8 Chest pain	9.5	4.8	81.0
9 Headache	3.8	1.9	79.9
10 Joint pain	13.5	5.0	70.2
11 Disturbance of gastric function	0.7	1.4	78.7
12 Disturbance of balance	8.1	2.7	66.2
13 Changes in energy and tiredness	22.4	1.7	69.0
14 Disturbance of breathing	3.3	6.6	90.2

There is, also, no consistent relationship in the symptoms studied between the fact that a physical examination of the patient took place and the precision or level of confidence of the diagnosis recorded. In certain symptoms such as cough, pain in the throat and skin rashes, a large proportion of patients were examined and in a high proportion a presumptive level of confidence of the diagnosis recorded. In contrast, in such symptoms as pain in the abdomen, back, head and joints, equally high proportions of patients were examined, but the confidence in the diagnosis recorded was less. In disturbances of bowel and gastric function, both a small proportion of patients were examined and a low level of diagnostic confidence expressed.

Infection, trauma and psychiatry

Examination of the individual diagnoses recorded for different symptoms reflects the importance of acute infection in causing most of these symptoms, particularly cough, sore throat and the skin symptoms. The diagnosis of disturbances of bowel and gastric function is most unsatisfactory. The high rates of presentation of these symptoms in children under the age of five, an age distribution mirrored by cough and skin rashes, which appear to be largely due to acute infection, suggests that possibly acute infection is aetiologically important in the symptoms of gastro-intestinal disturbance. The inability of the doctor to inspect the site of infection as in diseases of the upper respiratory tract, skin and ear, may account for the imprecise diagnoses and also for the apparent lack of enthusiasm to perform any physical examination.

The number of occasions in which trauma and the group of rheumatic disorders were held responsible for pain in the chest, abdomen, back and joints is of interest. The rarity of the classical diagnoses, such as coronary thrombosis, appendicitis or rheumatoid arthritis emphasises the difficulty at the primary diagnostic level of identifying the life-threatening diseases amidst a mass of less immediately dangerous pathology. This is confirmed as the patient was rarely referred immediately to hospital.

Finally, the relatively small number of diagnoses of psychiatric illness is noteworthy. With the exception of the symptoms: pain in the head, pain in the chest, disturbances of balance and changes in energy; psychiatric disorders were of minor importance. This observation could be interpreted in a variety of ways, including a desire by the

doctor to diagnose the patient's complaint, in the first instance, in terms of a pathological process.

Conclusion

The distribution of diagnoses recorded in this study for several common symptoms at the time of the first consultation reveals a pattern of probabilities different from many preconceived ideas about symptom interpretation in general practice. Sequential studies of individual patients presenting with specified symptoms would be necessary to validate the contention that new textbooks of differential diagnosis are required by the primary physician, but these results suggest that this may be so.

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APPENDIX — DEFINITIONS

Patient initiated new consultation

A consultation initiated by the patient about a symptom which had not been the subject of consultation with any doctor in the preceding 12 months. It was at this type of consultation only that symptoms were recorded.

Symptom

The doctor's answer to the question "To this patient what is the most important deviation from normal health which has resulted in this patient initiating this consultation?"

Diagnostic confidence

Symptomatic. The doctor could not advance the diagnosis beyond the presenting symptom.

Provisional. The diagnosis was advanced beyond a symptomatic level, but the doctor proposed either to take further action or to 'wait and see' in order to confirm his diagnosis.

Presumptive. The doctor was confident of his diagnosis and prepared to defend it to his colleagues.

Examination

History only. The doctor's diagnostic activity was limited to history taking.

Examination of one system. The examination carried out was confined to one system of the body.

Examination of two systems. The doctor examined two or more systems of the body. By convention, the usual functional systems, e.g. CVS, CNS, were accepted as single systems.

SCREENING FOR VITAMIN C STATUS

During the last four years a simple measure of tissue AA status has been examined, namely the 2·6 dichloroindophenol tongue test in which a drop of the 3 per cent blue dye is placed on the tongue. As the reduced AA in the tongue reacts with the dye, the blue colour disappears. A short tongue test indicates a high concentration of AA in the tissue, and a long test indicates a lower concentration.

A highly significant correlation between plasma and leucocyte AA values was found and a significant relationship between TTT and leucocyte values. There was, however, no relationship between plasma AA and TTT. It can therefore be concluded that TTT, leucocyte AA values, provides a measure of tissue AA storage and metabolic requirements.

Wilson, C. M. W. & Kevant, J. P. (1971). Paper read at XV Annual Meeting Society for Social Medicine.