

# SYMPTOMATOLOGY IN PRECLINICAL TEACHING

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One of the great defects in British medical undergraduate education today is the practice of restricting the formal teaching of physiology and biochemistry to the pre-clinical years. Until this is rectified there remain the problems not only of promoting a proper enthusiasm for these essential studies, but more importantly of establishing a strong mental association between them and the clinical subjects. These problems may be partially resolved by using symptomatology as a basis for the discussion of various aspects and principles of physiology. This approach, however, requires one to ensure among other things (*a*) that common symptomatology offers a wide enough scope to form that basis and (*b*) that the necessary selection of symptoms does not create in the pre-clinical student's mind an unbalanced picture of their occurrence.

This short review is thus an attempt to discover the range and relative incidence of common symptoms in general practice and so make available to pre-clinical students a background against which such teaching may be seen in perspective and from which a sense of proportion may be obtained. It consists simply of an analysis of the *Morbidity Statistics from General Practice* (vol. I General)<sup>1</sup> from the viewpoint of the probable associated symptomatology.

The exact scope and nature of the conditions as quoted in the survey were obtained by reference to the *International Classification of Diseases*<sup>2</sup> using the International Classification number quoted in the report. For ease of analysis the conditions were regrouped into systems with the resultant abolition of pathological groups, e.g. cancer of lung was included amongst diseases of the respiratory system and not under the heading of neoplasms. This regrouping resulted in a distribution of disease between the systems. (Table I).

TABLE I  
THE DISTRIBUTION OF DISEASE BY "SYSTEMS"

	Percentage		Percentage
Respiratory	24.8	{ Upper respiratory	15.0
		{ Lower respiratory	10.0
Skin	12.6		
		{ Teeth	1.0
		{ Mouth and oesophagus	0.8
Digestive	10.2	{ Stomach duodenum	3.1
		{ Intestine	4.7
		{ G.B. etc.	0.4
		{ C.N.S.	2.0
C.N.S.	8.7	{ Eye	3.0
		{ Ear	4.0
Accident	8.0		
		{ Urinary	1.2
Genito-urinary	7.0	{ Genital	5.5
		{ Breast	0.2
Locomotor	6.9		
C.V.S.	5.1	{ Cardiac	1.5
		{ Vascular	3.5
General	4.8		
Mental	4.1		
Non sickness	3.7		
Pregnancy	1.3		
Blood	1.0		
Metabolic	0.9		
Endocrine	0.5		
Infancy	0.2		
Congenital	0.1		
Total	100		

The figures used for incidence of disease were those for "patients consulting" given in table 9 of the survey. This offers a truer guide to morbidity than "consultation rates" as explained in the preamble to that report. The incidence of each disease per 1000 was abstracted for males, females and persons in each of the age groups given *i.e.* 0—15—45—65—and for all ages.

Certain groups of conditions were omitted from the review.

1. *Mental, psychoneurotic, and personality disorders.*

This group has so diverse a symptomatology that it can almost be assumed to offer an alternative explanation for any individual symptom. Moreover patients in this group are by nature less reliable witnesses than in other groups.

2. *Congenital malformations, certain diseases of early infancy.*

The incidence of individual conditions is not specified. The recognition of many of the commoner conditions of these groups would not be as a result of symptoms complained of—particularly as the conditions occur mainly in the earliest age groups. The total is moreover so small as not to influence materially the overall symptom incidence.

3. Where the frequency of each disorder was unspecified, it was impossible to guess at the incidence of symptoms. The total number of such disorders was small; *e.g.* Complications of pregnancy, complications of the puerperium.

The disease and conditions eligible for consideration were examined individually and the classical symptomatology of each was noted. The decision as to what constituted the classical symptoms for a given condition had necessarily to be a personal one guided by reference to five standard texts:—

*A Textbook of the Practice of Medicine*—Price  
*The British Encyclopaedia of Medical Practice*  
*Saville's System of Clinical Medicine*  
*French's Index of Differential Diagnosis*  
*Synopsis of Medicine*—Tidy.

These texts were chosen as being representative of British clinical experience. Books of non-British origin were avoided as the manifestations of many conditions vary with their geographical location, and the significance of similar phrases may also be subject to regional differences.

Four rules governed the selection of symptoms that were recorded.

1. A symptom was defined as any disturbance of well-being which might reasonably be expected to be the subject of a complaint by or for a patient. This was necessary to avoid including those manifestations of disease that are normally disclosed only by expert examination.
2. For any given condition each symptom recorded had to be quoted by at least three of the five authorities consulted.
3. Generalized terms such as malaise, lassitude, etc. were omitted as they are non-specific and associated with too wide a variety of conditions.
4. The symptoms had to be of a nature that might reasonably be capable of explanation in physiological terms:—this condition being not unassociated with (3) above.

As already implied it was seldom that two authors agreed completely on what constituted the typical, uncomplicated picture of a condition, the image of any disease being necessarily partly a function of experience. The difference lay not only in the symptoms found but in the frequency with which they occurred. In this latter respect a wide variety of terms was encountered and symptoms were described as occurring:

- 1.—As a rule; usually; in a majority of cases; characteristically; regularly; ordinarily; etc. These terms I regarded as having similar significance and meaning “a hundred per cent of the time.”
- 2.—frequently; often; commonly; not invariably; etc. These terms were regarded as implying a two third (66.6 per cent) incidence.
- 3.—at times; occasionally; in a few cases; rarely; sometimes; etc. These were given a rating of one third (33.3 per cent).

The choice of these percentages was based on two considerations:

- a. personal interpretation of the meaning of the phrase.
- b. comparison of the various phrases as applied to symptoms in individual conditions with the percentage incidence quoted for that symptom in the same condition in such articles as offer that information.

Five such articles are quoted relating to carcinoma of the stomach<sup>3</sup>, gall-stones<sup>4</sup>, carcinoma of the oesophagus<sup>5</sup>, congestive heart failure<sup>6</sup>, chronic bronchitis<sup>7</sup>.

The validity of these figures is referred to later.

Taking into account the above considerations, the analysis of the various conditions and diseases resulted in the list of 60 symptoms (table II) given in order of frequency for persons of all ages.

Additional perspective can be gained if the symptoms are re-grouped to show the relative incidence within the systems they are associated with, although neither method of presentation reveals the not unexpected fact that by far the commonest complaint with which a doctor is faced is that of pain (table III).

Although the figures quoted in this article may be disputed and a few common symptoms appear to be ignored, the results I think are as accurate as can be achieved by this approach and as informative as their purpose requires. Three general points of interest emerge:—

1. The incidence of each symptom is not necessarily related to its diagnostic significance and the most trivial form of complaint, if sufficiently frequent, can achieve major importance for patients and doctor alike, thus making its understanding mandatory.

2. A mixture of exactness and inexactness is a feature of much medical observation. Thus authors describe in great detail the appearance of a skin eruption but appear satisfied to record that such a symptom occurs 'often'. (This is in no way a specific criticism of the books I used, which were chosen for their authoritativeness). It does not appear from extensive enquiry that such terms have any real general quantitative significance expressed as a percentage, too much depending on the context. I have given the basis for my numerical evaluation of such terms and I am convinced as a result of trial that any other evaluation whilst affecting the absolute incidence of symptoms would not significantly affect their relative position on the scale and would certainly have no effect on the range of symptoms listed. No doubt the nature of disease precludes any exactness in this matter, but I feel that many students would form clearer impressions from even approximate figures than is demonstrably possible from such vague terms. The difficulties, though great, have been overcome in limited fields and if more

TABLE II  
SIXTY SYMPTOMS IN ORDER OF FREQUENCY BY PERSONS OF ALL AGES

		All Ages	0-	15-	45-	65-			All Ages	0-	15-	45-	65-
Fever chills, rigor	M F P	281 301 288	535 552 543	220 273 247	195 208 200	168 177 173	Pain in chest	M F P	63 74 68	53 49 51	30 56 44	76 78 76	160 155 157
Pain muscle, bone, joint	M F P	254 286 278	308 327 318	223 256 246	258 278 268	260 306 287	Hoarseness	M F P	55 70 63	87 91 89	50 77 64	34 45 40	30 42 37
Headache	M F P	185 240 210	270 275 270	165 200 175	170 200 185	270 235 210	Disturbance of hearing	M F P	53 44 48	76 77 77	46 36 41	45 35 40	48 37 41
Skin eruptions	M F P	194 188 189	326 323 324	171 188 178	130 141 136	105 111 109	Itching	M F P	35 48 42	57 70 63	31 50 41	23 33 28	21 26 24
Sneezing, catarrh, etc.	M F P	157 166 162	268 285 276	133 161 138	126 127 127	97 99 98	Palpitation	M F P	21 58 40	4 5 5	5 35 21	28 75 54	95 160 134
Cough	M F P	151 142 146	167 160 157	99 113 106	179 144 160	249 193 214	Dyspepsia	M F P	37 35 36	16 18 17	39 33 36	50 46 48	66 62 64
Traumatic pain	M F P	131 98 114	151 117 134	153 91 120	103 98 100	71 98 84	Flatulence	M F P	36 34 36	16 18 17	39 33 36	46 43 45	48 47 47
Sore throat	M F P	99 113 108	228 231 224	78 113 97	47 63 56	32 39 36	Dizziness & vertigo	M F P	17 49 34	4 6 5	6 33 20	25 68 48	53 113 89
Nausea & vomiting	M F P	102 106 101	104 98 101	81 89 71	116 102 109	129 125 128	Diarrhoea	M F P	30 29 29	60 53 56	21 23 23	19 20 19	20 24 23
Swollen glands	M F P	85 101 88	187 189 188	74 96 86	37 44 41	17 21 20	Thirst	M F P	28 29 29	34 33 34	33 32 32	36 36 36	34 44 40
Dyspnoea	M F P	84 92 88	77 66 72	36 69 54	111 103 107	225 189 203	Disturbance of vision	M F P	23 32 28	12 15 13	21 33 28	31 39 35	34 41 39
Sputum excess	M F P	82 70 76	87 78 83	38 43 42	105 74 88	178 123 145	Frequency and polyuria	M F P	11 34 22	3 9 6	7 30 19	17 41 28	33 63 51
Pain in abdomen	M F P	81 69 75	93 89 91	65 62 64	86 60 72	92 67 77	Disturbance of sleep	M F P	12 30 22	3 4 3	5 9 7	21 31 37	55 102 83
Menstrual disturbance	M F P	— 71 —	— 13 —	— 98 —	— 101 —	— 31 —	Oedema	M F P	10 29 19	3 3 3	6 43 21	15 33 24	43 59 52

Glossitis, etc.	M	18	14	18	19	16	Dysphagia	M	3	4	3	2	6
	F	19	16	17	20	17		F	5	5	4	4	9
	P	18	15	17	20	17		P	4	4	3	3	8
Ptyalism & waterbrash	M	17	14	18	19	16	Incontinence (Urinary)	M	4	8	3	3	4
	F	17	16	17	18	18		F	7	6	5	9	21
	P	17	15	17	19	17		P	4	7	3	4	3
Dysuria and strangury	M	12	18	8	14	15	Stomatitis	M	3	4	3	2	2
	F	26	9	36	26	23		F	4	5	4	4	3
	P	15	1	17	18	18		P	3	4	3	3	3
Pallor	M	4	4	2	4	14	Convulsions	M	3	3	4	3	3
	F	22	6	27	25	33		F	3	3	4	3	2
	P	13	5	15	16	26		P	3	3	4	3	3
Obesity	M	3	1	4	6	3	Haemoptysis	M	3	3	3	5	4
	F	18	2	23	29	9		F	3	4	3	3	2
	P	11	2	14	18	7		P	3	4	3	3	3
Disturbance of sensation	M	7	1	5	12	21	Jaundice	M	3	6	1	1	2
	F	17	1	9	22	41		F	3	5	2	2	2
	P	11	1	7	18	33		P	3	6	2	2	3
Palpable mass	M	13	6	6	19	37	Hyperhidrosis	M	1	0	1	2	4
	F	10	5	10	11	13		F	3	0	2	5	4
	P	11	5	8	14	22		P	2	0	2	4	4
Constipation	M	6	8	6	5	16	Anuria & oliguria	M	2	1	2	3	3
	F	13	9	11	13	22		F	2	1	4	2	2
	P	10	8	8	9	19		P	2	1	2	3	3
Fainting	M	4	2	1	5	16	Retention	M	4	1	2	5	21
	F	13	2	13	17	26		F	2	1	2	4	2
	P	9	2	8	12	22		P	2	1	2	3	3
Paralysis & paresis	M	7	0	2	7	41	Involuntary movements	M	1	0	0	2	5
	F	10	0	3	8	43		F	3	0	3	4	5
	P	9	0	2	8	43		P	2	0	2	3	5
Ext. haemorrhage, etc.	M	8	0	4	10	17	Haematuria	M	2	1	2	3	3
	F	17	0	14	16	30		F	2	1	2	4	2
	P	8	0	4	12	24		P	2	1	2	3	3
Cramp	M	5	0	1	8	41	Inco-ordination	M	2	0	0	2	9
	F	11	0	3	11	48		F	2	0	0	2	10
	P	7	0	2	9	45		P	2	0	0	2	10
Melaena	M	10	0	10	18	11	Hunger	M	1	0	1	5	8
	F	3	0	2	4	3		F	2	0	1	6	7
	P	6	0	6	11	6		P	2	0	1	6	6
Xerostomia	M	5	20	1	1	0	Alopecia	M	1	1	1	4	2
	F	5	19	2	1	0		F	1	1	1	3	3
	P	5	20	1	1	0		P	1	1	1	4	2
Coma & stupor	M	4	0	0	4	30	Dyspareunia	M	2	0	2	1	1
	F	5	0	0	4	28		F					
	P	5	0	0	4	29		P					
Cold extremities	M	3	0	0	2	23	Leucorrhoea	M					
	F	6	0	1	7	27		F	10	2	17	12	4
	P	5	0	1	5	26		P					

**TABLE III**  
**RELATIVE INCIDENCE OF SYMPTOMS WITHIN THE SYSTEM WITH WHICH THEY ARE ASSOCIATED**

<b>G.I.</b>	<b>% approx.</b>	<b>C.V.S.</b>	<b>% approx.</b>
Nausea and vomiting	27.0	Swollen glands	50.0
Abdominal pain	20.0	Palpitations	23.0
Dyspepsia	9.5	Oedema	11.0
Flatulence	9.5	Pallor	8.0
Diarrhoea	7.5	Fainting	5.0
Thirst	7.5	Cold Extremities	3.0
Ptyalism	4.5		
Glossitis	4.5		
Obesity	3.0		
Constipation	3.0		
Melaena	1.5	<i>Respiratory</i>	<b>% approx.</b>
Dysphagia	1.5	Sneezing, etc.	23.0
Xerostomia	1.5	Cough	20.0
Jaundice	1.0	Sore Throat	15.0
Stomatitis	1.0	Dyspnoea	12.0
Hunger	0.5	Sputum —	11.0
		Pain in chest	9.0
		Hoarseness	9.0
		Haemoptysis	1.0
<b>C.N.S.</b>	<b>% approx.</b>	<b>Gen. Urinary</b>	<b>% approx.</b>
Dists. of hearing	29.0	Dists. of menstruation	54.0
Vertigo and dizziness	21.0	Leucorrhoea	8.0
Dists. of vision	17.0	Dyspareunia	1.5
Dists. of sleep	13.0		
Dists. of sensation	7.0		
Paralysis	6.0	Frequency	17.0
Coma and stupor	3.0	Dysuria	12.0
Convulsions	2.0	Incontinence	3.0
Inco-ordination	1.0	Retention	1.5
Involuntary movements	1.0	Anuria	1.5
		Haematuria	1.5
<b>Skin</b>	<b>% approx.</b>	<b>General</b>	<b>% approx.</b>
Eruptions	82.0	Fever	46.0
Itching	18.0	Headache	33.0
Alopecia	—	Pain — trauma	18.0
		Palpable mass	2.0
		Haemorrhage	1.0
		Sweating	—
<b>Locomotor</b>	<b>% approx.</b>		
Pain M.J.B.	98.0		
Cramp	2.0		

generally resolved would give information valuable in itself and in the study of the changing nature of individual diseases.

3. The symptoms listed should be those most commonly encountered in general practice. For a large percentage of students

graduating in medicine they will be amongst the first problems to be faced unaided, and thus a detailed understanding of their nature and significance cannot be overemphasized. Providing therefore that the essentials of physiology and biochemistry have previously been made clear, it would seem more reasonable to elaborate and illustrate these principles where possible by reference to common symptoms rather than to use some other less relevant technique.

The three main objections to this point of view I have tried to answer.

1. The danger of initiating a false sense of perspective in the clinically inexperienced mind can to a large measure be overcome.

2. The range of common symptomatology is sufficiently wide to form a basis for the teaching of many aspects of physiology.

3. Physiology whose proper function includes the explanation and interpretation of clinical findings may appear by this approach to be offering to students answers to problems they have not yet encountered. To the extent that this is true is, I think, a fault of the curriculum, a fault which does not justify any modification of the essential requirement to integrate as closely as possible, physiology and clinical teaching.

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#### **The Low Incidence of Gastro-intestinal Symptoms after a Chelated Oral Iron Compound. R. D. S. BARNES, M.B., B.S. *The Practitioner* (June 1960), 184, 789**

Of 115 patients treated with ferrous aminoacetosulphate ('plesmet') only two developed gastro-intestinal upsets, and three complained of headaches. The "basic price" of 100 tablets is given as 1s. 9d., against 5d. for ferrous sulphate tablets. The preparation is stated to be most effective, with minimal toxicity and relatively low cost.