

ASTHMA AMONG UNDERGRADUATES AT THE UNIVERSITY OF WALES

By

GRAHAM GRANT
Senior Student Health Officer,
University of Wales

INTRODUCTION

Students are members of a group in which the community invests heavily and the determination of the extent and nature of diseases and disabilities to which the undergraduate population may be more than usually subject is a matter of some importance. In the development of university health services, morbidity studies are of value because they throw into perspective problems essentially of an administrative nature such as the need for any special provision for medical care. And, though students are a highly selected group both physically and intellectually, such studies may also be of value from a comparative point of view. Knowledge about the prevalence of different illnesses among differing populations may ultimately contribute to the solution of problems of an aetiological nature. The purpose of this communication is to present information about the prevalence of asthma among undergraduates at the University of Wales. At the same time, an analysis of prevalence into broad groups according to students' choices of courses of study is given and comparisons are made between students and other groups. Discussion of the possible relationships between asthma and psychological stresses at college is deliberately omitted.

SOURCE AND NATURE OF DATA

The findings are derived from medical histories obtained at routine examinations conducted among entrants to the University of Wales during the academic sessions 1950-51 to 1953-54 inclusive. Students attended these examinations on a voluntary basis and the proportions attending rose steadily from 76 per cent of the total entry in 1950-51 to 86 per cent in 1953-54. The findings are, nevertheless, open to the general criticism that they are not necessarily representative of the student population as a whole. Nothing is known of the medical histories of students who failed to attend and it might well be that a condition such as asthma is disproportionately represented for the reason that those who had suffered from it might have accepted a medical examination more readily than those who had not.

When taking a routine medical history all students are asked whether they have ever had attacks of asthma and the progress of the condition is ascertained in every case. It is well established that asthma in some cases has a natural tendency to begin in childhood, to improve spontaneously in early adult life and, in some cases, to recur later in life. Among the students two groups could be distinguished, namely.

- (a) those who had had attacks in childhood but who were no longer subject to them. (In the majority the attacks had become infrequent and ceased during puberty and early adolescence) and,
- (b) those who, at the time they were interviewed, were still subject to attacks. In this group, although there was a great deal of variation in the frequency and severity of attacks, all had had at least one attack during the year preceding their interview.

THE PREVALENCE OF ASTHMA
AMONG STUDENTS

Records were available for 4,571 students; 152 (3.3 per cent) of them gave a history of asthma. In 64 (1.4 per cent)

the attacks had ceased; 88 (1.9 per cent) were still having them. Put in another way it may be said that among 152 young men and women of college age who gave a history of asthma, 58 per cent were still having attacks when they came up to the university and 42 per cent had become free of attacks.

It may be noted, in passing, that some support is given to the figure of 1.9 per cent as a prevalence rate for asthma (i.e. proportion of students still having attacks) by reference to medical reports supplied by the students' family doctors prior to entry to the university. Among 1,024 entrants to the session 1953-54, for example, 1.5 per cent were recorded as still having asthmatic attacks by their general practitioners (Grant, 1954). Furthermore, in a survey of intercurrent illness conducted among students at one of the constituent colleges of the university, 1.7 per cent reported at least one attack of asthma during a period of approximately three months. Among students at Cambridge a prevalence of 1.7 per cent was also reported (Rook, 1949).

In Table 1, the prevalence of asthma is given for the sexes separately and the groups who had had attacks in childhood only and those who were still subject to attacks are also distinguished.

TABLE 1
Asthma History in Undergraduates.

	No. of records	Asthma history					
		Childhood only		Still having attacks		Total with asthma history	
		No.	%	No.	%	No.	%
(a) Males	3,093	49	1.6	70	2.3	119	3.9
(b) Females	1,478	15	1.0	18	1.2	33	2.2
(c) Persons	4,571	64	1.4	88	1.9	152	3.3

It is of interest that, in common with general experience, a greater proportion of young men than young women gave a

TABLE 2
Asthma in Relation to courses of study.

Courses	No. of records		Childhood only		Asthma history		Total with asthma history	
	No.	%	No.	%	No.	%	No.	%
(a) Males.								
Arts, Social Science & Law	1,129	27	2.4	28	2.5	55	4.9	
Medicine & Pharmacy	420	5	1.2	11	2.6	16	3.8	
Engineering (including Mining)	255	3	1.2	6	2.3	9	3.5	
Pure Science	1,039	11	1.1	22	2.1	33	3.2	
Agriculture, Forestry & Dairying	250	3	1.2	3	1.2	6	2.4	
Total	3,093	49	1.6	70	2.3	119	3.9	
(b) Females.								
Arts, Social Science & Law	924	10	1.1	8	0.9	18	2.0	
Medicine, Pharmacy & Physiotherapy	238	2	0.8	4	1.7	6	2.5	
Pure Science	263	2	0.8	5	1.9	7	2.7	
Agriculture, Forestry & Dairying	53	1	1.9	1	1.9	2	3.8	
Total	1,478	15	1.0	18	1.2	33	2.2	
(c) Persons.								
Arts, Social Science & Law	2,053	37	1.8	36	1.8	73	3.6	
Medicine, Pharmacy & Physiotherapy (women only)	658	7	1.1	15	2.3	22	4.4	
Engineering (including mining)	255	3	1.2	6	2.3	9	3.5	
Pure Science	1,302	13	1.0	27	2.1	40	3.1	
Agriculture, Forestry & Dairying	303	4	1.3	4	1.3	8	2.6	
Total	4,571	64	1.4	88	1.9	152	3.3	

history of asthma (3.9 per cent as compared with 2.2 per cent) and the proportion of men still having attacks is almost twice the proportion of women (2.3 per cent as compared with 1.2 per cent).

ASTHMA IN RELATION TO COURSES OF STUDY

An analysis of asthma histories in relation to courses of study is given in Table 2. Taking the sexes together (Table 2(c)), students studying Agriculture, Forestry or Dairying had the lowest incidence of asthmatic histories and the lowest prevalence of active asthma. The differences between this group of students and the other groups are not, however, statistically significant. They may, nevertheless, point to a general trend. Among the men, for example (Table 2(a)), only 2.4 per cent of those studying Agriculture, Forestry and Dairying gave a history of asthma as compared with 4.9 per cent of those taking Arts, Social Science or Law; but the same cannot be said of the women among whom the numbers are, in any event, very small.

DISCUSSION

Stocks (1949), from experience of the Social Survey of Sickness, reported a "mean monthly prevalence rate" for asthma of 904 per 100,000 among the adult population over 16 years of age. Logan (1953) from an analysis of the work of eight medical practices in England found a prevalence of 9.4 per 1,000 for men and 9.9 per 1,000 for women (all ages). Findings among a group more strictly comparable with university students as regards age are given by Williams (1951) who quotes figures derived from an investigation into causes of rejection for service with the Armed Forces. Nine per 1,000 were rejected on account of asthma and "most of these men fell within the eighteen years age-group". The findings of the present enquiry suggest that asthma is

substantially more prevalent among university students than it is among the general population.

Studies among the school population might help to throw light on the prevalence of asthma among students. Logan also found the prevalence of asthma among children under 14 years of age to be 8 per thousand for boys and 6 per thousand for girls, but no precise estimate of the proportion of asthmatic children who eventually reach the university can at present be given. Sir John Charles (1954) writes:

"Asthmatic children are often described as charming, intelligent and affectionate. There is unfortunately, little information on the intelligence of asthmatic children, but such evidence as is available suggests that they do not differ greatly in intelligence from non-asthmatic children. In special schools for delicate children, the more gifted children are frequently the asthmatics, but the children in these schools are not a true sample of the whole school population. Many asthmatic children have had long absences from school and as a result they may be educationally retarded, sometimes severely so".

It is not known to what extent the previous schooling of university students with a history of asthma was interrupted. They may have been among the more fortunate ones. At all events, to judge by their subsequent performance in gaining university entrance they do not appear to have been at any great disadvantage from an educational standpoint. Indeed, asthma may confer on the child certain advantages from the viewpoint of scholastic achievement. Less distracted by school games and outdoor recreations he may, perhaps, be able to devote more time to school work than might otherwise be the case. A proportion of asthmatics may, in fact, be constitutionally well-suited by temperament and intelligence to academic work, and the asthmatic child who succeeds scholastically may have special qualities of diligence and perseverance. There would certainly appear to be no justification for advising asthmatic children and their parents against hard work at school for the evidence suggests that a fairly large proportion are ultimately capable of achieving a university degree.

It is generally accepted that before puberty boys develop asthma more commonly than girls, but there is little information as to the relative proportions in the sexes who achieve freedom from attacks. Though the numbers among the students are small, it is not without interest to note that 41 per cent of 119 men and 45 per cent of 33 women had become free of attacks during puberty and early adolescence. It would be of value to know what proportion of eighteen year olds in the general population who have a history of asthma are no longer subject to attacks. It might well be that asthma is found disproportionately among students because the university is a relatively protected environment and may tend to attract those who are unable to follow strenuous physical occupations when they leave school. At the same time, the young man with asthma is likely to be found unfit for National Service and may, consequently, feel inclined to embark on an academic career which can be planned without the risk of interruption.

Some support for the view that asthmatic subjects may tend to avoid strenuous outdoor occupations and also, incidentally, occupations involving an increased risk of exposure to allergens is given by the findings in Table 2. Williams (1955), from a study of the Ministry of Pensions and National Insurance Digest of Statistics Analysing Certificates of Incapacity, 1951-52, observed that occupations in agriculture, horticulture and forestry, among others, showed relatively little incapacity due to asthma. Low rates of incapacity were also found among professional and administrative occupations, and it is difficult to reconcile this observation with the relatively high prevalence of asthma among students. It may be that those entering the professions either suffer from mild attacks or are less likely, by the nature of their work, to suffer incapacity, than are skilled or unskilled artisans. Certainly asthma has not, in general, proved a serious handicap to students who suffer from it. During the past seven years, no case is known of a student at the University of Wales having had to change a course of study or leave on account of it and most seem to manage their attacks reasonably well.

SUMMARY

1. An enquiry into the prevalence of asthma among students at the University of Wales is described. 33 per thousand gave a history of asthma and 19 per thousand were still subject to attacks at the time of entry into college.
2. Evidence is provided to show that asthma is considerably more prevalent among university students than it is in the general population.
3. The prevalence of asthma among children under 14 years of age determined by Logan, taken in conjunction with the findings among students, suggests that a higher proportion of asthmatic children than might be expected may eventually reach the university.
4. There is evidence to suggest that asthmatic subjects may tend to avoid strenuous outdoor occupations.
5. The University appears to offer a not unfavourable environment to the asthmatic.

ACKNOWLEDGMENTS

I am indebted to Dr. D. A. Williams for much kindly help and criticism, to Professor F. Grundy for his guidance, and to my colleagues in the Student Health Service, Drs. R. A. N. Hitchens and Edith McKnight to whose case records I had access.

REFERENCES

- Charles, Sir J.*: The Health of the School Child. H.M.S.O. London 1954.
Grant, G.: The Value of Medical Certificates for Students Entering a University. Br. Med. J. 2: 497, 1954.
Logan, W. P. D.: Studies on Medical and Population Subjects No. 7. General Practitioners' Record, H.M.S.O., London 1953.
Rook, Sir A.: Annual Report of University of Cambridge Student Health Service, 1948-49.
Stocks, P.: Studies on Medical and Population Subjects No. 2. Sickness in the Population of England and Wales 1944-47 H.M.S.O., London 1949.
Williams, D. A.: Social Importance of Allergic Diseases. Proceedings of First International Conference for Allergy, Zürich 1951 (quoting Dr. R. J. T. Thornhill, Ministry of Labour and National Service).
 - Choice and Change of Professions. Proceedings of Netherlands Association of Allergy, May 1955 (In Press).

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.