

The incidence of allergy—has it changed?

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Summary

A survey of the incidence of allergy in the entire population of a new-town general practice is reported, comparing the year 1974 with 1979. A rise in the incidence of allergic complaints is noted in both sexes. However, hay fever and asthma continue to show a male dominance.

Introduction

Previous epidemiological reviews of the incidence of allergy have used a variety of population groups for their survey and have not compared the same groups on two well separated occasions. For our survey we used the entire population of a new-town general practice. It was felt that there were advantages in having a very broadly based large survey group consisting of a normal population rather than any form of selected subgroup.

Materials and methods

A record of positive allergic diagnosis was entered on each patient's case notes. The initial screening of records was performed by a state registered nurse experienced in allergy work, and the final decision to include a patient was made by the author. Where there was doubt about a diagnosis the recorded information was compared with the standard definitions of allergic disease, and those that were unacceptable by these criteria were discarded. The results are held in a card index system.

The population was surveyed in 1974, and the results were held, uncounted, until after a further re-survey in 1979, at which time the figures for both years were prepared and compared, after deletion of records of those who left the area since 1974.

Results

The results are presented in Table 1 (1974) and Table 2 (1979). The population of affected women in 1974 was higher and this difference is statistically significant

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Table 1. Incidence of diseases, 1974

Allergic disease	Female population <i>n</i> = 5675		Male population <i>n</i> = 5390		Both sexes <i>n</i> = 11 065	
	No.	%	No.	%	No.	%
Eczema	579	10.20	449	8.33	1028	9.29
Dermatitis	23	0.40	14	0.25	37	0.33
Urticaria	295	5.19	219	4.06	514	4.64
Angio-oedema	8	0.14	2	0.03	10	0.09
Conjunctivitis	19	0.33	18	0.33	37	0.33
Hay fever	239	4.21	270	5.00	509	4.60
Rhinitis	45	0.79	35	0.64	80	0.72
Asthma	179	3.15	245	4.54	424	3.83
Foods	11	0.19	10	0.18	21	0.18
Drugs	307	5.40	168	3.11	475	4.29
Miscellaneous	181	3.18	89	1.65	270	2.44
Total allergic patients	1438	25.33	1091	20.24	2529	22.85

Table 2. Incidence of diseases, 1979

Allergic disease	Female population <i>n</i> = 5675		Male population <i>n</i> = 5371		Both sexes <i>n</i> = 11 042	
	No.	%	No.	%	No.	%
Eczema	669	11.79	645	12.00	1314	11.90
Dermatitis	32	0.56	27	0.50	59	0.53
Urticaria	352	6.20	292	5.44	644	5.83
Angio-oedema	11	0.19	6	0.11	17	0.15
Conjunctivitis	41	0.72	24	0.44	65	0.59
Hay fever	286	5.04	347	6.40	633	5.73
Rhinitis	83	1.46	61	1.14	144	1.30
Asthma	201	3.54	291	5.41	492	4.46
Foods	20	0.35	12	0.22	32	0.29
Drugs	489	8.62	277	5.16	766	6.94
Miscellaneous	191	3.36	89	1.66	280	2.54
Total allergic patients	1817	32.04	1472	27.40	3289	29.79

($P < 0.0005$). Some diseases show between-sex differences with a greater incidence of hay fever and asthma in males ($P \leq 0.05$) and for females eczema, urticaria, drug allergies and miscellaneous allergies are higher ($P \leq 0.01$).

In the 1979 survey the proportion of women affected was again significantly higher ($P < 0.0005$). Drug allergies and miscellaneous allergies remain significantly greater in women ($P \leq 0.005$) whereas asthma and hay fever remain more common in males ($P \leq 0.005$). However, for other diagnoses there is no longer any significant sex difference.

There was an increase in the total incidence from 1974 to 1979, and this change

Table 3. Changes in the incidence of allergic diseases over the period 1974-1979

Allergic disease	Both sexes					Women				Men				Dominant sex associated with the change		
	% affected			χ^2	P	% affected			χ^2	P	% affected				χ^2	P
	1974	1979	1979			1974	1979	1979			1974	1979	1979			
Drugs	4.29	6.94	72.40	<0.0005	<0.0005	5.40	8.62	44.40	<0.0005	3.11	5.16	27.47	<0.0005	Female		
Eczema	9.29	11.90	39.46	<0.0005	<0.0005	10.20	11.79	7.20	<0.01	8.33	12.00	34.46	<0.0005	Male		
Rhinitis	0.72	1.30	18.03	<0.0005	<0.0005	0.79	1.46	10.84	<0.001	0.64	1.14	6.66	<0.01	Female		
Urticaria	4.64	5.83	15.45	<0.0005	<0.0005	5.19	6.20	5.18	<0.025	4.06	5.44	10.92	<0.001	Male		
Hay fever	4.60	5.73	14.24	<0.0005	<0.0005	4.21	5.04	4.26	<0.05	5.00	6.40	10.22	<0.005	Male		
Conjunctivitis	0.33	0.59	7.24	<0.01	<0.01	0.33	0.72	7.40	<0.01	0.33	0.44	0.62	N.S.	Female		
Asthma	3.88	4.46	5.26	<0.025	<0.025	3.15	3.54	1.22	N.S.	4.45	5.41	4.15	<0.05	Male		
Dermatitis	0.33	0.53	4.66	<0.05	<0.05	0.40	0.56	1.17	N.S.	0.25	0.50	3.57	N.S.	Male		
Foods	0.18	0.29	1.91	N.S.	N.S.	0.19	0.39	2.08	N.S.	0.18	0.22	0.05	N.S.	—		
Angio-oedema	0.09	0.15	1.35	N.S.	N.S.	0.14	0.19	0.21	N.S.	0.03	0.11	1.14	N.S.	—		
Miscellaneous	2.44	2.54	0.17	N.S.	N.S.	3.18	3.36	0.23	N.S.	1.65	1.66	0	N.S.	—		

N.S. = Not significant.

reaches the level of statistical significance ($P < 0.0005$) for both sexes, and for the sexes individually (males $P < 0.0005$, females $P < 0.0005$).

All allergies were associated with an increase in the proportion of the population afflicted, but this was not statistically significant for angio-oedema, food allergy or urticaria ($P = 0.05$). The increase in the incidence in some diseases has removed the sexual bias seen in the survey of 1974. However, hay fever and asthma continue to show a male dominance ($P \leq 0.0005$), and drug allergy and miscellaneous conditions show a continuing female bias ($P \leq 0.005$). By 1979 sexual bias was no longer present in eczema, dermatitis, angio-oedema, conjunctivitis, rhinitis or food allergy. The statistics are analysed in detail in Table 3.

The final total incidence of allergic disease of sufficient severity to cause medical consultation is now almost one-third of the female population.

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