Educational Level of Patients with Cleft Lip and Palate

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The treatment of cleft lip and palate anomalies is being increasingly concentrated in certain centers where a team of different specialists is available. This has made more intense and diversified research possible. Studies of the social placement of cleft lip and palate patients, however, are relatively few, and the information required is deficient.

Earlier studies have dealt with the psychic development of school-age patients (*12*), the vocabulary of pre-school age patients and its development (*10*), and intelligence, speech and hearing, and their interrelationships (*4, 13, 5, 7, 8, 9*). The high school drop-out frequency (*3*) and school progress in general (*2, 11, 1*), and employment and socioeconomic status (*2*) have also been investigated. The purpose of the present study was to investigate the social placement of Finnish cleft lip and palate patients according to their educational level.

Material

The material comprised all the 514 cleft lip and/or cleft palate patients born in 1948–50 and in 1954, treated at the FRC Hospital for Plastic Surgery which is the cleft center in Finland (Table 1). These patients were sent a questionnaire in 1969; anonymity was permitted, but the date and place of birth, and the place of residence were requested. The questionnaire inquired about the patient's education from the beginning of the primary school to university or vocational training. The boys born in 1948–49 were also asked about national military service, which is compulsory in Finland. The information obtained was compared with the official Finnish statistics, and for national military service with data held by the training department of General Headquarters of the Defense Forces. The statistical analysis of the material was performed by applying the t-test to the comparison of the percentages. The t-value is obtained from the formula

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TABLE 1. Distribution of the material between urban and rural dwellers compared with all children born in Finland in the same years.

year of birth	*patients controls*	*urban*	%	*rural*	%
1948	125	45	36	80	64
	107759	24793	23	82966	77
1949	136	48	35	88	65
	103515	22805	22	80710	78
1950	132	45	34	87	66
	98065	22144	23	75921	77
1954	121	35	29	86	71
	89845	28700	32	61145	68
total	514	173	34	341	66
	399184	98442	25	300742	75

$$t = \frac{|p_1 - p|}{\sqrt{p_1 q / n}}$$

in which

p_1 = percentage under comparison
p = percentage for the control material
q = $100 - p_1$
n = size of the sample

Of the patients, 34 per cent were urban and 66 per cent rural dwellers, and of the control material 25 and 75 per cent, respectively (Table 1). The significance level of the t-value 2.5758 used in the comparison is 0.01, i.e. 99 per cent. The differences from the control material are statistically significant ($t = 4.307 > 2.5758$).

Table 2 gives the distribution according to sex and the type of cleft,

TABLE 2. Distribution of the material according to sex and the type of cleft (I primary palate, II prim. & sec. palate, III secondary palate), and the percentage of replies received to the follow-up inquiry

year of birth	*I*		*II*		*III*		*total patients*			*reply* %
	M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*total*	
1948	3	3	27	10	26	56	56	69	125	57.6
1949	11	7	23	18	22	55	56	80	136	56.6
1950	8	5	22	14	32	51	62	70	132	63.6
1954	7	4	24	15	22	49	53	68	121	63.6
total	29	19	96	57	102	211	227	287	514	60.3
	48		153		313					
reply %	68.7		59.5		59.4		58.6	61.7	60.3	

and the percentage of respondents in the follow-up study. There were 227 boys (44 per cent) and 287 girls (56 per cent). The reply rate according to the year of birth ranged from 56.6 to 63.6, average 60.3 per cent. Twelve patients had died and two replies were rejected as deficient. The final follow-up material therefore consisted of 296 patients, about 59 per cent of the patient series. The reply rate was the same for all forms of cleft; the degree of severity therefore did not seem to affect the percentage of replies.

Results

Table 3 shows the educational level of the 296 patients who were followed up compared with the national statistics. Only one patient (0.3 per cent) was incapable of attending primary school and went to a special school; the corresponding figure for the control material was 0.07 per cent. The remaining 99.7 per cent completed at least primary school. 32 per cent completed lower secondary school (control material, 22.2 per cent). Of those born in 1948–50, 8.6 per cent matriculated (against 15.2 per cent), and 31.5 (19.5) per cent completed a vocational school course. The differences from the control material are statistically significant for junior secondary school ($t = 3.614$), university ($t = 3.483$) and vocational school ($t = 3.822$).

Table 4 presents the military training of the boys born in 1948-49 compared with the control material. 96.8 per cent (93.1 per cent in the control material) of those called up at the age of 19 had been accepted; 20 per cent (21.6 per cent) were given non-commissioned officer training, and 3.3 per cent (7.7 per cent) officer training. The differences are statistically non-significant.

TABLE 3. Educational level of the material compared with control statistics for the whole country (the lower figure)

year of birth	*patients*	*educational level*				
		special school	*primary school*	*junior sec. school*	*university*	*vocational school*
1948	70	1 (1.4%)	69 (98.6%)	19 (20%)	9 (13%)	26 (38.5%)
		0.07%	99.93%	19.3%	14.6%	
1949	72	—	100%	24 (34%)	8 (11.1%)	20 (26.3%)
				21.3%	14.9%	
1950	77	—	100%	19 (24.7%)	2 (2.6%)	23 (30%)
				22.4%	16.2%	
1954	77	—	100%	33 (43%)		
total	296	1 (0.3%)	295 (99.7%)	95 (32%)	19/219* (8.6%)	69/219* (31.5%)
control material		0.07%	99.93%	22.2%	15.2%	19.5%

* A total of 77 patients born in 1954 was omitted from the material as being too young.

TABLE 4. National military service of the material compared with the control material (the lower figure)

year of birth	*patients*	*national service*		
		*11 months**	*NCO*	*officer*
1948	93.9%	3.3%	20%	—
	94.2%	11.2%	21.7%	7.6%
1949	100%	—	20%	6.6%
	92%	11.2%	21.4%	7.7%
total	96.8%		20%	3.3%
control material	93.1%		21.6%	7.7%

* Two months longer for specialist branches.

Discussion

The distribution of our series according to sex and type of anomaly corresponds approximately to the distribution in the total material of our hospital (*6*). The size of the material and the percentage of replies received to the follow-up inquiry, compared with the earlier studies, were satisfactory or better (*2*, *11*). It can be assumed, therefore, that the study probably gives an adequate though not complete picture of the patients' educational level. A study of a larger material from more diversified angles is not possible at the moment, since the hospital's systematic data go back only to 1947, and the educational level of the younger patients cannot be determined yet, nor the military service achievements evaluated.

According to several earlier studies, the intelligence of cleft lip and palate patients has been slightly below the average (*4*, *14*), although the differences are not great and can partly be due to methodical errors. It has not been possible to show any particular cleft psyche. Our study supports the earlier finding that the patients' attendance in primary and lower secondary school exceeds the average (*11*, *14*). It should also be noted that the education, especially vocational education, of the younger age groups is not completed yet. It seems, however, that difficulties encountered at senior secondary school and university level lead to a lowering of the higher educational level. This anomaly seems to be no obstacle to military service, but even here, for some reason, officer training is infrequent, a finding apparently not recorded before. The study gave no indications of the type or causes of the difficulties responsible for the lower level of higher education.

Summary

The educational level of 514 Finnish patients with cleft lip and/or palate elicited by a follow-up questionnaire was compared with the corresponding national average level. The reply rate was 60.3 per cent. Both for school attendance and military service, the percentages of cleft patients in the

lower and middle levels of education were slightly higher, but at the higher level lower than in the control material.

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