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The Prevalence of Transsexualism in England and Wales

By J. HOENIG and J. C. KENNA

Introduction

The incidence and prevalence of transsexualism are difficult to establish, as the syndrome is not sufficiently common to lend itself to the usual methods of epidemiological research.

Before the 1960s reports on the syndrome were limited to sporadic cases (Pauly, 1965), but, following Benjamin's (1953) writings, reports on larger series have been collected (Overzier, 1955; Randell, 1959; Roth et al., 1964; Ball, 1967; Benjamin, 1966; Pomeroy, 1968; Hoenig et al., 1970a and others). Hamburger's (1953) paper on an analysis of 465 letters which he received from patients asking him for help showed that this correspondence came from a large number of countries in all five continents. A similar correspondence of 700 letters to the Johns Hopkins Gender Identity Clinic from persons requesting an evaluation of their case, which was analysed by Hoopes et al. (1968), showed that the syndrome was very widespread in the United States and also more numerous than had perhaps been suspected. None of these studies, however, could give information about the incidence and prevalence rate of the syndrome. Pauly (1969) made a rough calculation of the likely number of transsexuals in the U.S.A., arriving at a figure of one transsexual in 100,000 general population.

The first systematic study of the prevalence of transsexualism was undertaken by Wålinder (1968). He requested all practising psychiatrists in Sweden to inform him of any transsexuals known to them as of 31 December 1965. About three-quarters of them replied to his letter, reporting 67 individuals whose cases fell within the strict criteria of Wålinder's definition of the syndrome. Adding 43 cases known to him personally, the result was a total of 110 cases. His study came as close as was probably possible to assessing the prevalence rate of the syndrome

in Sweden, and encouraged by his efforts we attempted a study of our own.

Метнор

As in all epidemiological investigations, a clear definition of the syndrome is of the utmost importance. Wâlinder (1968) had given this due attention and offered a definition with the following criteria:

- A sense of belonging to the opposite sex, of having been born into the wrong sex, of being one of Nature's extant errors.
- A sense of estrangement from one's own body; all indications of sex differentiation are considered as afflictions and repugnant.
- 3. A strong desire to resemble physically the opposite sex via therapy, including surgery.
- 4. A desire to be accepted by the community as belonging to the opposite sex.

This definition coincides largely with the one used by us (Hoenig et al., 1964, 1970).

All cases were seen by us in the University Department of Psychiatry at the Royal Infirmary, Manchester, between 1958 and 1968 inclusive. Almost all cases were admitted to the in-patient unit for investigation and observation, and relatives or other witnesses were interviewed where possible. Reports and documents from other medical or social agencies likely to throw light on the case were collected. Thus a secure diagnosis was established before the case was included in the series. Unlike Wålinder, we did not write to all psychiatrists in the region, but, given the way in which medical services function in a National Health Service Region, it is highly likely that general practitioners, plastic surgeons, endocrinologists, as well as psychiatrists, came to know of our interest and referred their cases. Certainly, as our study progressed and knowledge of its existence spread, an increased number of transsexual patients were referred.

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cal test rascular 613–18. G., and CerebroBetween 1958 and 1968 we had referred to us a total of 72 patients. For the purpose of the present study, however, we confined ourselves to those patients of 15 years and above who were resident in the area of the Manchester Regional Hospital Board where our clinic was situated. In fact we included only patients who had lived in the Region for at least one year prior to inception, this being the criterion for inclusion in the census report as 'resident'.

Enumeration reports (Registrar General's Quarterly Return) are published annually for Hospital Regions, and hence we were able to compare our group of patients with the general population resident in this Region. The United Kingdom General and Parliamentary Constituency Tables (H.M.S.O., 1969) from the Census Report of 1966 provided the additional statistical data needed.

In each of the Hospital Regions in England the administration of the hospital services is the responsibility of the Regional Hospital Board, and doctors working in each Region are dependent on each other for certain services. One aspect of this is especially relevant to our inquiry into incidence, viz.: general practitioners refer patients to specialists within their Region, and specialists to other specialists for purposes of cross-consultation. The department in which we worked is situated in the teaching hospital which also fulfils the function of a referral centre for the Region.

The Manchester Region had on 30 June 1970 an estimated population of 3,498,700 of 15 years and over—1,652,000 males and 1,846,700 females (Registrar General's Quarterly Return ending 31.12.1970, No. 488).

MATERIAL

After excluding all cases under 15 years of age, and after applying our definition of residence, we were left with 66 patients, 49 male and 17 female.

Table I shows the age distribution of this group of patients at the time of inception into the clinic. The figures show that the majority of patients are incepted before they reach the age of 35, namely 53. This is even more striking in the case of men where this figure is 40 as compared with 13 women. On the other hand

TABLE I
Patients resident in region
Age and sex distribution

Age at incept	ge at inception		Female	Both sexes
15-19		16	3	19
20-24		8	4	12
25-29		8	5	13
30-34		8	I	9
35-39		2	1	3
4044		2		2
45-49		3	3	6
50-54				
55-59		2		2
All ages		49	17	66

it is also interesting that a few stragglers come to medical clinics for the first time in the age group 50-59. This illustrates the reluctance of many transsexuals to come forward or, as is the case here, to postpone this point for a long time.

Table II shows the composition of the group as regards the duration of residence in the region. Forty-six (70 per cent of all cases) had been resident in the area since birth and this applies almost equally to men and to women.

Table II

Duration of residence in region, number of patients

Duration of residen	ce	Male	Female	Both sexes
Since birth		34	12	46
Since schooldays		7		7
At least 1 year		8	5	13
'Residents'		49	17	66

Table III shows how the patients came to be seen at the clinic. Fifty-nine were referred by medical agencies, 27 by general practitioners and 25 by other psychiatrists. Seven came from non-psychiatric specialists, mostly endocrinologists and plastic surgeons. Only 7 of the patients were sent to us by social workers, police or prison officers; this group consisted entirely of men. All women were referred to us by medical agencies, 11 by their general practitioners. As referral through a general practitioner can be regarded as the most 'normal' mode of incep-

Table III

Sources of referral to the clinic, number of patients

Source of referral	Male	Female	Both sexes
General practitioner Specialist	. 16	ĭ 1	27
(non-psychiatric)	5	2	7
Psychiatrist	21	4	25
Social agencies	7		7
Total	49	17	66

tion, this suggests that the female patients are a socially more integrated group than the men.

Fig. 1 gives the inception figures for each year. Between 1958 and 1961 patients came only

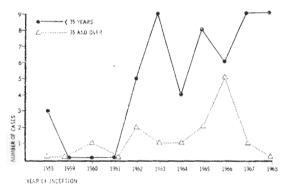


Fig. 1.—Inception figures for each year by age groups.

in small numbers, and a flow of regular referrals began only in 1962. It is not likely that this was due to a change in incidence of transsexualism; it is more probably due to the growing awareness of the syndrome amongst both doctors and the general public, and perhaps to a shift in the climate of opinion whereby the transsexual is able to be more overt.

As was shown earlier, the majority of patients are incepted before the age of 35. This seems to be the normal age range of inception, and Fig. 1 shows that once the flow of referrals is established the inception rate in that age group assumes more and more constancy. This is not so as regards inception figures for the older age group. The figures for the patients of 35 and over show a decline over the years, and it is likely that the inception of that age group during the past

years was due to a catching-up process which took place mainly between 1963 and 1967 and which is self-terminating. It is also probable that the transsexualist's decision to make contact with a clinic is an action of less likelihood once a given age has been reached. Other solutions of the problem have by that age been reached or become more likely than contact with the clinic.

If this interpretation is correct, one can expect a future inception rate in this region of 6 to 9 patients per annum, or approximately 0.2 to 0.3 per hundred thousand population. Most patients would be below the age of 35.

The facts that the inception rate for the younger age group reached a relative constancy, and that the inception rate of older patients, after passing a peak, showed a decline and came to a halt, lend support to the view that most patients over 15 known to the doctors in the Region up to the end of 1968 attended our clinic and have been included in this series.

FINDINGS

Prevalence rate

Having established our definition of the syndrome, our method of case collection, and the composition of our group of patients, we shall now present a number of its population-related characteristics.

Table IV shows the prevalence rate per 100,000 population. The right hand column shows that the overall prevalence rate is 1.90 transsexuals per 100,000. It also shows that the prevalence differs for men and women; 3.00 for males but only 0.93 for females. Expressed in another way, our figures are one male transsexual in 34,000 of the male population and one female transsexual in 108,000 females. The ratio of male to female transsexuals is 2.88 to 1 for the group, but is 3.25 to 1 after allowance is made for the unequal sex distribution in the population.

Table IV also shows that there is a striking difference between the population in metropolitan and non-metropolitan areas. The terms as we use them here require some explanation. The central conurbation of the area consists of the Cities of Manchester and Salford, and our designation 'metropolitan' refers to this conur-

Population in region 15 years and over by sex and marital status TABLE IV

		Popu	Population in region 15 years and over by sex and marital status	gion is years	מוומ ההכו ה)	y sex ana m	CHAPPE APAILER				
				Male			Female	47		Bothsexes	KCS
			Single	Ever Married	Total	Single	Ever Married	Total	Single	Ever Married	Total
Motorogittee	Population	:	84,420	209,280	293,700	76,350	247,750	324,100	160,770	457,030	617,800
areas	Patients	:	26	80	29	ro	-	9	31	4	35
2	Ratio per 100,000	:	30.80	1.43	9.87	6.55	0.40	1.85	19.28	0.88	2.67
Non-	Population	:	305,170	305,170 1,034,450 1,339,620 233,850 1,278,280 1,512,130 539,020 2,312,730 2,851,750	1,339,620	233,850	1,278,280	1,512,130	539,020	2,312,730	2,851,750
Metropolitan areas	Patients	:	12	8	20	6	8	11	21	10	31
•	Ratio per 100,000	:	3.93	22.0	1.49	3.85	91.0	0.73	3.60	0.43	60.1
	Population	3	389,590	389,590 1,243,730 1,633,320	1,633,320	310,200	310,200 1,526,030 1,836,230	1,836,230	699,790	699,790 2,769,760 3,469,550	3,469,550
Total region	Patients	:	38	11	49	14	3	17	52	14	99
	Ratio per 100,000	;	9.75	0.88	3.00	4.51	0.20	.093	7.43	0.21	06.1

bation; we use the term 'non-metropolitan' to designate the Hospital Region outside the conurbation of Manchester and Salford. Table IV indicates that the overall prevalence for the cities is 5.67, whereas that for the non-metropolitan area is only 1.09. The male/female ratio of transsexuals in the Cities is 4.83 to 1. The prevalence among the city men is 5.33 times that for the city females. In the non-metropolitan population the prevalence among men is only 2.05 times that for the women. These differences are not likely to be due to differences in incidence of the disorder, but probably reflect a greater tendency among male transsexuals to migrate to the metropolitan area. The prevalence rate for males in this area at 9.87 is over 7 times that in the non-metropolitan (1.49) whereas that for females in the metropolitan (1.85) is about 2 to 3 times that in the nonmetropolitan areas (0.73).

Marriage rates

As is well known, marriage amongst transsexuals is not rare. We are referring here to a legally contracted marriage with a person of the

opposite sex.

It can be seen in Table IV that transsexuals differ very markedly from the general population as regards marital status. This is, of course, not unexpected. The prevalence for married males is only 0.88, whilst that for single males is 9.75 per 100,000. The rate for the single is therefore more than ten times that of the evermarried. Amongst women the difference is even greater. There are only 0.20 ever-married female patients per 100,000 ever-married females in the population, and 4.51 single females per 100,000 single females in the population. The latter figure is about 23 times that of the first. These figures show that transsexual women do not venture into marriage as often as do transsexual men.

If we break down the figures into metropolitan and non-metropolitan we find further differences in respect of marital status. As Table IV shows, the two sexes seem to behave differently. In the former area proportionately more male patients remain single, whereas in the non-metropolitan areas it is proportionately more females who do so. In the metropolitan the prevalence ratio of

the male single transsexuals is about 21 times that of the ever-married male transsexuals. In the non-metropolitan areas the prevalence rate for single males is only about five times that for the ever-married males. For the females, however, the position is reversed. The rate for the single transsexuals in the metropolitan area is about 16 times that of the ever-married, whereas in the non-metropolitan areas the prevalence rate for the single is over 24 times that of the ever-married. In short, the latter areas have proportionately more married male transsexuals than the metropolitan areas, whereas for the female transsexuals the opposite applies. This finding is difficult to explain and is obviously a starting point for further enquiries.

Social class

The social class of transsexuals has been commented on in the literature (Randell, 1959; Hoenig et al., 1970, 1970a), but we have so far no population-related data. We have taken our population figures from the 1966 census report for England and Wales, which uses 17 different socio-economic groups. As the number of our patients is relatively small, we felt that the old classification into five social classes would be more useful for our comparisons, and we attempted an approximation between the two classifications. The social class recorded for each patient is the highest achieved by him or her. Our findings are given in Table V.

The right hand column shows that social classes V and IV are very much over-represented in our group. For social class V the prevalence rate is 16.75, for social class IV, 6.85 per 100,000. Social classes I (1.02) to III (1.25) have a rate of about 1 per 100,000. A comparison between the social class rates in the two areas also shows that, whereas in the nonmetropolitan areas there is a slightly more even distribution of transsexuals amongst the different social classes, in the metropolitan population the social classes IV and V have a very much higher prevalence rate than social classes I to III. The difference between the prevalence rate in the social classes IV and V on the one hand and I to III on the other is significant, and so are the differences in this respect between the areas.

The census figures report social class only in relation to males. We have therefore no way of comparing our group of females with the general population in this respect.

Table VI, however, shows the social class distribution of our male and female patients.

The total figures show that amongst the female patients there is a more even distribution than there is among the male patients as regards social class. Only 11 of the women fall into social class IV and V, compared with 37 men. The more even distribution is more particularly

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Table V
Social class of male patients and of the economically active male population in the region

Decidence					Social cla	SS	
Residence		-	I+II	III	IV	V	Total
Matura 2'tan	Population	 	26,030	148,550	44,160	28,070	246,810
Metropolitan – area	Patients	 	r	5	9	14	29
-	Ratio per 100,000	 	3.84	3:37	20.38	49.88	11.75
Non- Metropolitan area	Population	 	171,040	652,050	189,330	97,320	1,109,740
	Patients	 	I	5	7	7	20
	Ratio per 100,000	 	0.59	0.77	3.40	6.17	ı ·80
	Population	 	197,070	800,600	233,490	125,390	1,356,550
Total region	Patients	 	2	I O	16	2 I	49
-	Ratio per 100,000	 	1.02	1.25	6.85	16.75	3.61

Table VI Social class of male and female patients, by area of residence

<i>x</i> · · ·						Social class		
Residence			_	I+II	III	IV	V	Total
Metropolitan	Male	 		I	5	9	14	29
Metropolitan area	. Female	 		0	2	1	3	6
	Both sexes %	 		2·9	7 20.0	10 28·6	17 48·5	35
Non- Metropolitan areas	Male	 		I	5	7	7	20
	Female	 		2	2	1	6	11
	Both sexes	 		3 9·7	7 22·6	8 25·8	13 41.9	100.0
	Male	 		2	10	16	21	49
Total region	Female	 		2	4	2	9	17
	Both sexes	 		6·1	14	18 27·3	30 45 · 4	100.0

seen amongst the non-metropolitan female patients. Amongst the metropolitan dwellers the female figures are more similar to those of the men, both showing a higher percentage in the lower social classes. Among the female metropolitan dwellers there are very slightly more patients in social class V than is the case amongst the males and no female patients falls into social class I or II. The differences, however, are not significant. From these figures it appears that on the whole there is no marked difference between male and female transsexuals as regards social class.

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Transsexualism creates great difficulties for the patient in social adaptation. There is therefore, amongst other things, a high incidence of prolonged unemployment, and many patients depend on Supplementary Benefit and similar welfare support (Hoenig et al., 1970). The actual magnitude of the problem in relation to the general population has not been examined before.

Table VII compares our group in this respect with the census figures. We rated patients as unemployed only if they had been out of work for at least one year. It can be seen that there is a higher prevalence rate of transsexuals among the unemployed, namely 15.90 per 100,000, as compared to 2.59 in the labour force. The unemployment rate is nearly five times higher amongst the male patients, namely 14.99 vs. 3.07. Amongst females there is a considerably lower rate of transsexuals amongst the employed (1.80) than there is amongst the unemployed (20·14). There were, however, differences between the situation in the two areas. Amongst the metropolitan dwellers there were no unemployed amongst the female patients, whereas amongst the male patients the prevalence rate amongst the unemployed was 12 times higher than that in the labour force. In the non-metropolitan population the differences for the males are not so marked. There are proportionately more unemployed here too, approximately 3 to 4 times more, but the difference is not nearly as high as it is amongst the city dwellers, where it is 12 times larger. As regards the metropolitan female transsexuals, there were no unemployed. In the non-metropolitan areas, however, the prevalence rate amongst the unemployed is 18 times that in the labour force. It appears from these figures that the women have a better work adjustment in the Cities than in the non-metropolitan areas, whereas the opposite holds in the case of men.

Discussion

As we have pointed out earlier, we are by no means certain that we have succeeded in collecting a group which is complete enough to allow definitive epidemiological calculations to be carried out. We can in fact be almost certain that this is not the case. Our findings, therefore, will probably have to be regarded as underestimates.

Table VIII shows Walinder's (1968) prevalence rates and our own in juxtaposition. Considering the difficulties involved, it is heartening to see how similar the findings really are. As regards males, Wålinder's figures were 1 in 37,000 and are very similar to our figure of 1 in 34,000. Wålinder's finding for women of 1 in 103,000 is likewise similar to our finding of 1 in 108,000. There is a further similarity between Wålinder's findings and our own in regard to inception figures. Walinder (1971), taking the average of the last three years, reported an annual incidence of 0·15 per 100,000, the sex ratio having levelled off to 1:1. Our own incidence, or more precisely annual inception, rate for the past three years was 0.17 to 0.26 per 100,000. The sex ratio also showed a tendency to come nearer to parity and was 10 males to 9 females during the past two years.

In making comparisons, it should also be borne in mind that whereas the catchment area in Wâlinder's studies embraces an entire country, ours is only a region in a country. Just as there are more transsexuals in our Cities, it is possible that there is a further gradient between our 'Cities' and London. In fact we know from Swedish studies (Åkesson et al., 1969) that transsexuals migrate more than the general population, and that they drift to the more densely populated areas. This fact is probably responsible for the higher prevalence among our city dwellers, and may well have contribu-

TABLE VII Unemployment in population and amongst patients

		Cuentpe	Junean en F	mempersment in population and amongst putterns	a minorigae p	641/2447				
	A CONTRACTOR OF THE PROPERTY O		Male			Female			Both sexes	
Residence		Popula- tion	Patients	Ratio per Popula-	Popula- tion	Patients	Ratio per Popula- 100,000 tion	Popula- tion	Patients	Ratio per 100,000
Metropolitan	Labour force	248,320	21	84.6	159,180	9	377	407,500	27	663
area	Unemployed for a year	4,030	4	9,926	1,920	0	0	5,950	4	6,723
Non- Metronolitan	Labour force	1,118,760	21	188	676,330	6	133	1,795,090	30	167
areas	Unemployed for 1 year	42,660	3	703	8,010	а	2,497	50,670	36	7,105
	Labour force	1,367,080	42	307	835,510	15	180	2,202,590	57	259
Total region	Unemployed for 1 year	46,690 3.4	7 17.1	1,499	9,930	8.3	2,014	56,620 2.6	9	1,590

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TABLE VIII

Comparison of prevalence rates

Authors		Male	Female	Both sexes
Wålinder (1968)		 1:37,000	1:103,000	1:54,000
Our figures	• •	 1:34,000	1:108,000	1:53,000
Wålinder (1968)		 2·027 per 100,000	0.971 per 100,000	i ·852 per 100,000
Our figures		 3.000 per 100,000	0.925 per 100,000	1.902 per 100,000

ted to a drain out of the region altogether, making our figures under-estimates. There may also be a differential referral rate within our non-metropolitan area depending on distance from the location of the clinic in Manchester.

If we extrapolate nevertheless from the findings in this particular Hospital Region to the general prevalence of the condition, we arrive at a rough estimate as to the likely numbers of transsexuals in England and Wales as a whole.

Table IX shows the result of these calculations. If they are justified, one can expect some-

Table IX

Estimated prevalence figures of transsexualism for
England and Wales

			Transsexuals aged 15+
Male Female		17,893,700	537 181
Total	 	37,398,100	711

thing like 711 transsexuals to exist in England and Wales. These would be composed of 537 men and 181 women. These figures refer only to subjects of the age of 15 or above. There is clear evidence that transsexual patients, having attended at more than one of the centres of interest in such cases, are being counted more than once in the available statistics. There is also at least one instance in which a transsexual patient returned to the Clinic after an absence of several years, gave a new name, not mentioning previous attendance, and hence was recorded as a new case. It should not be too difficult to build up a national case register for such small

numbers. Such a step would place demographic and epidemiological studies on a sounder footing.

Our figures show that the behaviour of transsexuals with regard to marriage is complex, and that men and women behave differently from each other in that respect, and also depending on whether they live in metropolitan or non-metropolitan areas.

The social class distribution shows a higher prevalence rate in the lower social classes. This may, of course, be an artefact due to the National Health Service. Social classes I and II may prefer to go to practitioners taking private patients, and the very different findings reported by Benjamin (1966)—functioning as he does in the U.S.A.—who had a large proportion of higher social class patients, would lend support to this speculation.

The high unemployment figure among transsexuals underlines once more the socially disturbing nature of this condition. It is all the more striking to find that the females, particularly those living in the Cities, are less affected. It has been mentioned by others that the female transsexuals seem to be generally more stable and less vulnerable than their male counterparts.

Summary

A population-related study of a group of 66 transsexuals is reported, and data regarding sex, marital state, social class and work maladjustment are given. Calculations suggest as a conservative estimate that there are 537 male and 181 female transsexuals over the age of 15 in England and Wales.

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