

HIGH CONSANGUINITY RATE IN HUNGARIAN GIPSY COMMUNITIES

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Reproductive data of 1074 gipsy women between 13 and 52 years with one or more children were obtained by gipsy social workers through anonymous personal interview confirmed by available official documents. Socioeconomic status of five different gipsy communities studied is much lower than the Hungarian average. Their reproductive activity is also different, e.g., first births occur in much younger age. The high endogamy was proved by the gipsy origin of male partners in 90 % of couples. The occurrence of first cousin couples was 16 times higher than that of the Hungarian population at large, however, its range was wide from 0 % to 21 % in different regions studied.

INTRODUCTION

Previously a higher birth prevalence of posterior cleft palate, congenital cardiovascular malformations /4/, congenital talipes equinovarus /2/ was found in the children of Hungarian gipsy couples than in the non-gipsy Hungarian population. The gipsy communities have a different reproductive style, e.g., a higher rate of consanguinity is supposed. The objective of our study was to determine consanguinity rates in different gipsy samples and to test the hypothesis that the higher rate of some congenital abnormalities is dependent on their higher rate of consanguinity.

MATERIALS AND METHODS

Gipsy communities were examined in five territorial units including one to eight settlements in Hungary. Voluntary participation and the availability of gipsy social workers were selection criteria thus the study material is not representative for the whole Hungarian gipsy population. All women of reproductive age (between 13 and 52 years) with one or more children were planned to recruit. The data of reproductive activity were obtained by gipsy social workers through personal interview using printed from supplemented available documents, e.g., identification card which includes marital status and birth dates of children. Less than 5 % of women with unreliable responses in different samples were excluded by social workers from the study. The children of 1074 gipsy women studied were born from 1124 husbands or partners. Their origin and the relation between women and husbands or male partners were clarified on the basis of women's replies and the pedigree of the couple studied. Names were not recorded. The cooperation was refused in 0-9 % of gipsy women in different samples.

RESULTS

The distribution of age groups and the mean age of female participants (33.9 years) did not differ significantly among five combined territorial samples. The socioeconomic status of women studied was characterised by the number of schooling (Table I). It is extremely low in a comparison with the data of Hungarian female population at large.

TABLE I

Schooling of gipsy women studied and the Hungarian female population in 1982

Group	Years of schooling					Total
	0	1-7	8	9-12	13 or more	
Gipsy samples	23.4	56.5	19.6	0.5	0.0	100.0
Hungarian female population	2.0	42.5	31.2	20.4	3.9	100.0

The maternal age at the time of first delivery indicated a significantly earlier onset of reproduction (Table II). The average child number of females could not be evaluated because the reproduction has not been finished in the majority of cases. Gipsy females born between 1930 és 1939 had 4.9 children while this figure was about 1.8 in the Hungarian population at large.

TABLE II

Maternal age distribution at the time of first delivery

Group	Maternal age groups					Total
	<15	15-19	20-24	25-29	30	
Gipsy samples	2.2	62.6	29.4	4.4	1.4	100.0
Hungarian population	0.3	25.0	46.8	21.5	6.4	100.0

The gipsy origin of partners was characteristic (Table III), though a relatively wide range (75-95 %) was found in different regions. Of gipsy partners, 78 % originated from with same settlements. It is not characteristic for partners of non-gipsy origin. The occurrences of different consanguinity types are also shown in Table III. Three of first degree relative connections (0.3 %): father-daughter 2, sibs 1, were mentioned. Three couples had an uncle-niece relation. The rate of first cousin couples differed significantly (0-21 %) from each other in combined territorial samples. Of 1142 couples, 96 (8.5 %) had a degree of consanguinity less than first cousins. It was not possible to define exactly the type of consanguinity by the help of pedigree analysis in further 69 couples (6.1 %), but surely it was not a near one.

TABLE III

Origin of male partners and occurrence of consanguineous couples

Region	Number of females partners studied		Origin of male partner (%)					Number of consanguineous couples				
			gipsy SS	gipsy DS	non-gipsy SS	non-gipsy DS	unknown	First degree relatives	Uncle-niece	First cousin	Others	Undefined
Baranya	166	181	52	23	7	15	3	0	1	0 (0.0%)	5 (2.8%)	3 (1.7%)
Bács-Kiskun	129	131	83	9	1	5	2	1	0	4 (3.1%)	9 (6.9%)	4 (3.1%)
Budapest	159	179	76	17	0	6	1	0	1	37 (20.7%)	3 (1.7%)	0 (0.0%)
Szabolcs-Szatmár	284	285	61	30	1	6	2	0	1	6 (2.1%)	20 (7.0%)	10 (3.5%)
Szolnok	336	348	79	16	1	2	2	2	0	6 (1.7%)	59 (17.0%)	52 (14.9%)
Total	1074	1124	70	20	2	6	2	3	3	53 (4.9%)	96 (8.9%)	69 (6.4%)
Without Budapest region	915	945	69	20	3	7	2	3	2	16 (1.7%)	93 (10.2%)	69 (7.5%)

SS = same settlement

DS = different settlement

DISCUSSION

Of the Hungarian population of 10.6 million, the estimated size of the gipsy population is about half a million. Exact figure is not known because there is no official statistical record concerning ethnical origin in Hungary. The gipsy communities live different socio-cultural circumstances. On the one hand the organization of their community is based on the traditional large families (clans; in gipsy language: "nyamo"). About 30 clans establish a community ("compania") and the family solidarity is strong. They prefer to get married within this community, however, sometimes these marriages are not recorded officially. It explains the high rate of endogamy. Furthermore the "blood-relationship" among couples is not a shame as it is in non-gipsy communities. Hopefully this tradition improves the validity of information concerning the consanguinity because other supplementary possibilities for its confirmation were not available. However, the proportions of other and undefined consanguineous couples also showed a significant difference and this deviation may indicate an investigator bias. On the other hand the socioeconomic status of gipsy communities is much lower than the national average and it is connected with the level of education.

The main purpose of this study was to collect data concerning consanguinity rate in different gipsy communities. Our data indicate a higher rate both in endogamy and consanguinity in gipsy couples which are not characteristic for the Hungarian population at large /7/. The occurrence of incest is not known in Hungary, the estimated yearly number based on courts' registration is 2-3 per 100 000 births. It is in an agreement with international estimations (1 per 10 000-100 000 births) /1, 8/. The occurrence of relations between second degree relatives, e.g., uncle-niece is rare (0.01 %) in Hungary. The rate of first cousin marriages is about 0.3 % in Hungary /5/. Thus, the combined figure of first cousin gipsy couples (4.7 %) exceeds 16 times the national average, however, significant regional differences were found. Without the

Budapest sample which had an extremely high figure, the rate of first cousin gipsy couples is 1.7 % and it is 5.7 times higher than the Hungarian population figure. In the case of congenital abnormalities with multifactorial-polygenic origin, consanguinity of parents is expected to be slightly increased. The proportion of familial genes in common increases slightly and this goes together with a decrease of genetic variability. In the offspring of first cousins the risk may increase about 3-fold. It is reasonable because of a flattening of the normal distribution of polygenic liability together with a higher proportion of suprathreshold field /6/. Thus the higher rate of consanguinity may explain the higher birth prevalence of some congenital abnormalities with multifactorial origin in gipsy communities /3/.

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