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The Legacy of Foundlings in Emilia-Romagna (Italy)

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ABSTRACT

Between 1820 and 1929, in Iggio and in Tiola, rural parishes not too distant from the respective chief towns, a large number of marriages occurred between natives and former foundlings. The study of the distribution of surnames within the provinces of Emilia-Romagna (Italy) leads one to believe that the phenomenon was quite widespread in this region. This kind of marriage caused a direct gene flow from the town centres to the adjacent hilly areas. In general, however, the flow does not appear to have been so high as to change remarkably the genetic structure of the populations involved in the reception of the former foundlings, regardless that a percentage of them were taken to the hospitals of the towns from the countryside, and that many of those effectively born in the cities were children of people whose genetic pool did not differ substantially from that of the residents of the adjacent hilly zones.

Key words: *marriage, endogamy, foundlings, surnames, immigration*

Introduction

The use of surnames in the study of populations had its origin in the 19th century[1]. Since then, numerous techniques have been developed to deduce the genetic structure of a population from the distribution of surnames in the population[2,3]. These techniques have their principal limitations in the erroneous assumption that all surnames are monophyletic and the fact that patrilineal transmission is not universal. This second point is discussed in relation to populations in which transmission is (also) matrilineal, as in the Spanish model[4,5]; however, as regards the assumption that all surnames are monophyletic, this is contested as regards those derived from patronymics, trades or toponyms but almost never regarding surnames given to neonates delivered to foundling hospitals, perhaps because it is considered, frequently also with good reason, that the numerical and genetic contribution from these particular subpopulations is, and has been, modest. It is therefore important to ascertain what the contribution of these individuals has really been to the genetic structure of the populations in which they were placed once they had left the institute.

In Emilia-Romagna, it was customary for foundlings to be placed in families which lived in hilly zones in the foothills of the Apennines, where it was thought they might find more wholesome hygienic-environmental conditions[6]. They therefore constituted a human and genetic centrifugal flow from the towns, where the institutes, which dealt with abandoned neonates, were usually located, and this is in substantial opposition to the normal and habitual migratory flow towards the towns. Historically, urban populations were characterized by high mortality and low fertility; families were destroyed rapidly, favouring a constant repopulation of urban centres by immigrants from the surrounding countryside, predominantly populated by descendents of ancient autochthonous populations. Therefore, in general, a constant population flow from the countryside towards the nearest towns would have occurred, while the population flow in the opposite direction would have been extremely weak[7,8]. This paper tries to shed some light on what distribution and what impact on the genetic structure of the populations the practice of placing foundlings with peasant families might have had. In this regard, the aim of this paper is twofold. On the one hand, we make use of the case-studies of Iggio (in the Province of Parma) and of Tiola (in the Province of Bologna), rural parishes not too distant from their chief towns, to investigate in depth the marriage pattern of communities characterized, in the 19th century, by a considerable number of unions between natives and former foundlings largely originating from the urban centres. The analysis is here carried out at the individual level using parish registers. The marriage pattern of

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foundlings is then used to explain and interpret the impact of foundlings on the genetic structure of populations through the analysis of aggregate data of surnames, which, in certain cases, are for sure attributable to descendants of foundlings.

The phenomenon of infant abandonment in Italy

Over the centuries, there has been considerable abandonment of undesirable neonates, in the towns but also in the countryside, so much that in the 19th century the phenomenon of infant abandonment reached significant proportions, representing 3% of births occurring in Italy[9]. In this context, a particularly important role was played by hospices, which carried out fundamental work in the collection and care of foundlings and their subsequent placement in society. With regard to the practices of infant abandonment at the institutions, a rather widespread method made use of the so-called »ruota« or »torno«, a container in which the neonates were placed outside the hospital, permitting them to be left anonymously. The babies often displayed the so-called »recognition signs«, indicators which could help their identification if the parents subsequently requested their restitution[10,11].

Partly because of the considerable number of abandoned neonates, many hospitals in Northern Italy sent their foundlings to external wet nurses, often living in rural zones, considered healthier than the towns. The wage they received from the hospice was governed by the regulations of the various institutes and, at least for the first year of life of the infant, was around 50% higher than what could be earned working in the fields[12]. Particularly in the winter months, when agriculture did not produce revenue, the care of a foundling represented a real fixed income. Usually the payments decreased as the age of the child increased. In Parma, for instance, the money wet-nurses received was highest in the first year of life, halved between 2 and 6 years of age, and it was about one-quarter until 10 years[9]. In Bologna, it was almost the same situation, with payments terminating at the age of 15 years, when it was considered that the child was able to support himself/herself economically. Females were more protected than males: they usually had to be maintained until marriage[13].

The documentation stored at the hospices is particularly rich, and has been drawn on extensively by historians who dealt with the phenomenon of infant abandonment. Much less is known about the fate of foundlings and their possible offspring. Many of them certainly died as mortality reached very high levels: few survived childhood, as Bussini[14] reminds us for the town of Todi where, at the beginning of the 19th century, only 30% of foundlings reached the age of twelve. Once reached adulthood, some of them managed to integrate into the community which had received them; however, it is not very clear how many of these would have married individuals from that community, thus enriching genetic variability through their offspring.

Sources and Methods

It is clear that the reproductive contribution of foundlings to the host population could be appraised only through a micro-demographic analysis at the individual level. The parishes of Iggio, a hilly village situated in today's municipality of Pellegrino Parmense (Parma), and Tiola, a parish high up in the hills in the municipality of Castello di Serravalle (Bologna) offered the possibility of performing this analysis on account of the high presence of foundlings living in those two villages. The exploitation of the information contained in the parish registers of marriage enabled us to carry out a detailed analysis of the matrimonial behaviour of the inhabitants, foundlings in particular, of the two communities studied. The identification of foundlings in the marriage registers was made possible by an unequivocal indication of paternity stating »Figlio dell'Ospedale« (»Son of the hospital«). With regard to the two parishes, and to the historical period running from the Restoration following the Napoleonic period up to the Concordat between the Italian state and the Catholic church (signed in 1929), the following aspects were taken into consideration:

– total marriage rate and first marriage rate;
– proportion of marriages involving at least one former foundling;
– mean age at first marriage of males and females;
– proportion of marriages which were endogamous with regard to residence (this percentage was also calculated, separately, for marriages involving at least one former foundling and for marriages involving no former foundlings);

The aggregate data on surnames used to investigate the contribution made by foundlings to the gene pool of some selected communities were supplied by the www.italia.indettaglio.it website. These are municipalities of Emilia-Romagna where surnames unquestionably attributable to descendants of foundlings are nowadays among the most frequent. The percentage of individuals with these surnames out of the total number of inhabitants was then calculated.

Results and Discussion

As for marriage rates of the two studied parishes, they do not seem to differ significantly from those of their respective provinces: as previously mentioned, they are characterized by a high proportion of marriages involving at least one former foundling, a percentage which, in the second half of the 19th century, was around 25% of total marriages in both the parishes of Iggio and Tiola (Figure 1). In approximately half of these marriages, the former foundling was male: therefore, in the cases studied, there would not seem to have been any gender preference. Analysing the marriage behaviour of the women living in Iggio, a previous work has shown that the mean age at first marriage among former foundlings was lower than that of women originally from the village, thereby contributing to

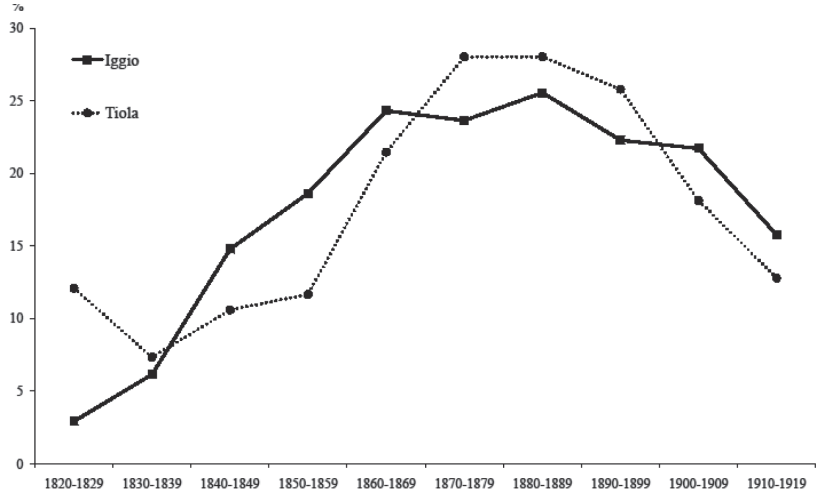

Fig. 1. Trend over time of the percentage of marriages with at least one former foundling out of total marriages in Tiola and in Iggio, by decades, from 1820-29 to 1910-19 (three-term moving average).

a lowering of the overall mean[15]. Consistently with this, in Tiola too the mean age at first marriage is, for females, slightly lower than that found in other areas with similar characteristics[16]. These findings, which have also emerged in other contexts[17], have been interpreted as a consequence of either the strong desire of former foundlings to create their own family and finally escape a situation of marginalization or the pressure to leave exerted by the foster family no longer supported by the payments of the foundling hospital. The alternative to marriage was not particularly attractive: it involved returning to the hospital, where the women would certainly be accommodated but, at the same time, lose the opportunity for an independent life.

In both parishes, there is evidence of a marked propensity to exogamy. In Tiola, as for the period spanning from 1817 to 1929, the percentage of endogamous marriages exceeds that of exogamous marriages only for the decade 1910–19, likely a consequence of the turmoils of the First World War. In Iggio, for the entire second half of the 19th century, the endogamy rate is around 60%. These are rather low values for the period and they are lower still if, for marriages which are endogamous with regard to residence, those involving at least one former foundling are not considered.

Until the mid-19th century, characteristic surnames were given to foundlings in many areas of Italy[18]. As for Emilia Romagna, »Tanzi« was the most common surname for foundlings raised in the hospitals of Parma while »Degli Esposti« was widespread in the Bologna area. With regard to the Province of Bologna, the frequency of the surname Degli Esposti in the total population is nowadays 0.002, but there are municipalities in which such surname is among the ten most common (Figure 2). With the exception of Ozzano dell'Emilia and Bologna itself, these are localities situated in the hilly and submontane areas south-west of Bologna: Bazzano (the foundling surname is the most common), Castello di Serravalle (the most common), Castel d'Aiano (the second most common), Monteveglio (the second most common), Monte San Pietro (the fourth most common), Casalecchio di Reno (the fourth most common), Marzabotto (the eighth most common) and Grizzana Morandi (the tenth most common). Quite similar, as may easily be noted, is the distribution of the surname Tanzi within the Province of Parma. At present its frequency in the total population is 0.002, but Tanzi is the second most common surname in Salsomaggiore Terme, Fidenza and Noceto, the fifth most common in Medesano,

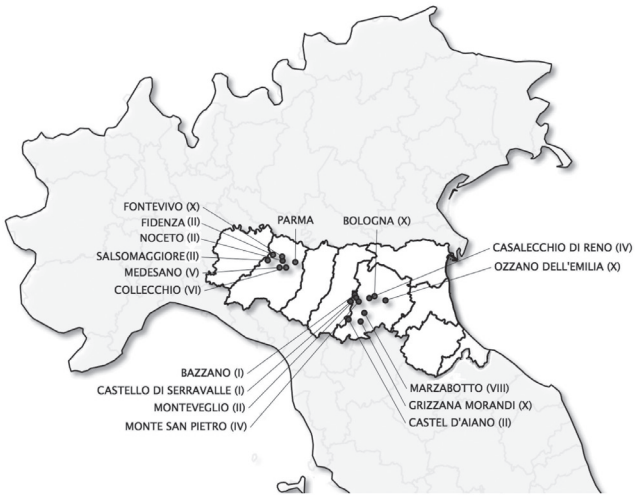

Fig. 2. Municipalities in the Province of Bologna in which the surname »Degli Esposti« is among the ten most common and the municipalities in the Province of Parma in which the surname »Tanzi« is among the ten most common (I = the most common, II = the second most common, etc.). Apart from Bologna and Ozzano dell'Emilia, these are hilly or submontane municipalities, situated to the south-west of the capitals.

the sixth most common in Collecchio and the tenth most common in Fontevivo.

This strong and common evidence led us to map the distribution of the municipalities, across the Emilia-Romagna Region, in which one of the surnames attributed to former foundlings up to the mid-19th century appears among the five most common, then identifying those municipalities which were, at least with regard to this period, the most oriented at receiving foundlings. For this purpose, only the most characteristic and widespread surnames were taken into consideration, namely Tanzi, Incerti, Venturelli, Degli Esposti, Casadio and Casadei (Figure 3). In a first approximation, the surnames Venturi and Ventura were not considered, which are also rather widespread and, in all probability, were attributed to former foundlings at the local hospitals. Almost all forty-nine municipalities in which one of the six surnames considered is among the five most common are found in the hilly area or close to it.

In order to obtain an estimate of the percentage of the gene pool attributable to foundlings arrived in those populations until the mid-19th century, we then attempted to calculate what percentage of the total resident population at 31.12.2009 was formed by people bearing the six characteristic surnames. The results obtained in each of the forty-nine municipalities mapped fluctuate between 0.4% (Fidenza and Noceto, in the Province of Parma; Casalecchio di Reno in the Province of Bologna) and 2.2% (Marano sul Panaro in the Province of Modena; Montescudo in the Province of Rimini). It is to note that starting from the 19th century, the surnames above mentioned, expressly because they were too easily recognisable, were no longer given to newborn children delivered to the hospices, and they were substituted by totally invented surnames. It is therefore not possible to directly estimate the overall contribution supplied by foundlings to the gene pool of the populations in the municipalities mapped. However, it seems reasonable to suppose that, in most of these, it does not currently exceed 5% of the total. Indeed, even where the percentage of bearers of the six surnames considered is today around 2% of the population, it is difficult to imagine, on the basis of the trend of marriages between natives and former foundlings over time in Iggio and Tiola and, more generally, what is known regarding the historical evolution of the phenomenon of infant abandonment[19,20], that the contribution supplied by foundlings in the period in which they were given invented surnames exceeded 3%.

One naturally wonders whether a percentage less than 5%, and therefore relatively low, may be explained on the basis of the low incidence of marriages between natives and former foundlings (common in parishes such as Iggio and Tiola but, as can be seen from surveys conducted, much less so in others) or rather on the basis of the dilution of their contribution which has occurred over the last hundred years, characterized by migratory movements on a wider scale. To answer this question, seven of the municipalities mapped were chosen at random and, in each of these and making use of registry office documents, the percentage of spouses bearing one of the six surnames was calculated with regard to the decade 1910–19. The results obtained are summarized in Table 1: as can be noted, in all the municipalities included in the sample but Santarcangelo di Romagna, the percentage of spouses bearing the six surnames considered halved over the last hundred years, in spite of the fact that among the spouses who celebrated their marriage in that decade there were also individuals who never lived in those communities. This leads one to believe that in these populations, and more generally in the

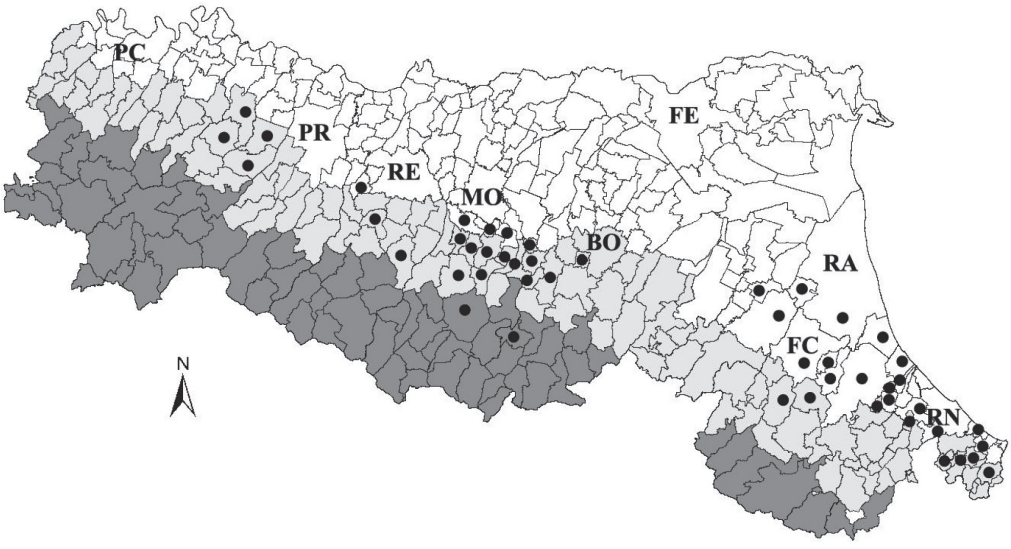

Fig. 3. Emilia-Romagna. Distribution of the municipalities in which one of the surnames attributed to foundlings until the mid-19th century appears among the five most common. Municipalities on the plain are in white, hilly municipalities are in light grey, mountain municipalities are in dark grey. Only the most characteristic and widespread surnames were taken into consideration: Tanzi, Incerti, Venturelli, Degli Esposti, Casadio and Casadei.

TABLE 1

NUMBER OF MARRIAGES RECORDED, NUMBER OF CONTRACTING PARTIES WITH A CHARACTERISTIC SURNAME, PERCENTAGE OF THE TOTAL CONTRACTING PARTIES IN THE DECADE 1910-19, IN THE MUNICIPALITIES CONSIDERED IN THE SAMPLE

Municipality	Marriages	Casadei	Casadio	Degli Esposti	Incerti	Tanzi	Venturelli	Total	% 1910-1919	% 2011
Casalecchio	436	/	/	10	/	/	/	10	1.1	0.4
Castel d'Aiano	328	/	/	24	/	/	/	24	3.7	1.8
Formigine	691	/	/	/	6	/	12	18	1.3	0.5
Gatteo	308	10	/	/	/	/	/	10	1.6	0.7
Maranello	404	/	/	/	/	/	20	20	2.5	1.2
San Clemente	237	6	1	/	/	/	/	7	1.5	0.8
Santarcangelo	796	9	/	/	/	/	/	9	0.6	0.6

The last column shows the percentage of bearers of characteristic surnames in 2011 (estimate of the percentage of the gene pool attributable to foundlings arrived in those populations until the mid-19th century). With regard to Gatteo, the data for the year 1914 are missing. The number of marriages recorded in Castel d'Aiano is an estimate.

hilly areas of Emilia-Romagna, the genetic structure of the population has changed rather significantly.

In this view, we have extended the analysis of change of the genetic structure to communities located both in the plain and on the mountains. For this purpose, after noting that the seven municipalities to which reference is made in Table 1 can be considered representative of a hilly zone (albeit broadened), a further seven were drawn from those classified by ISTAT as municipalities located in the plain and a similar number from those classified as mountain municipalities. For each of these, we used variations in the percentage of bearers of the most common surname in the decade 1910–19, to obtain an idea of the changes that had occurred over the last one hundred years (Table 2).

In the municipalities on the plain, the genetic structure of the population seems to have changed as much as, or even more than, that in the hilly area: in Soliera the most common surname in 1910-19 (Lugli) went from 3.2% to the current 1.2%; in San Prospero, the most common surname in 1910–19 (Baraldi) went from 4.8% to the current 1.2%; in Calderara, Vignoli went from 1.7% to 0.2%; in Bentivoglio, Mazzoni went from 1.8% to 0.1%; in Bastiglia, Rovatti went from 3.2% to 0.2%. However, the changes found in Argenta, where the surname Bolognesi went from 1.4% to 0.8%, appear similar to those found in the hilly zone, and also in Cesenatico (which, moreover, also appeared in the list of the 49 "receptive" municipalities), where the surname Rossi went from 1.6% to 0.9%. In the mountain municipalities, the changes seem to have been, in various cases, more modest than those found in the hilly area: in Cerignale, the surname Castelli went from 25.5% to 21.9%; in Ottone, the surname Canevari went from 12.1% to 9.9%; in Monghidoro, Naldi went from 3.2% to 2.2%; in Collagna, Fiorini went from 9.3% to 4.3%; in Ramiseto, Bragazzi went from 6.5% to 2.9%. Finally, the data regarding Busana are more difficult to interpret, where Canedoli went from 7.0% to 1.9%, and in Polinago, in which the most common surname in 1910–19 (Rossi) went from 2.7% to 0.4%; however, the second and third most common surnames (Gualmini and Bonvicini) increased their presence, going from 2.2 to 2.7% and from 2.2 to 2.6%, respectively.

A Spearman correlation analysis allows us to highlight the change over time of the genetic structure of populations according to their location. As for hilly and mountain communities, we found identical, high and significant Spearman correlation coefficients (ρ=0.857 and p-value=0.014), indication of moderate changes in the genetic structure of the studied communities over time. On the contrary, populations of the plain present a lower and non-significant coefficient (ρ=0.360 and p-value=0.427), which supports and confirms the idea of a more consistent process of genetic change in communities less isolated and more open to migration movements.

This in line with the consideration that the communities of the plain were the most interested by the huge gene flow due to immigration movements, which have specifically characterized the Emilia Romagna region over the last hundred years. This imposing migratory flow occurred in two waves, the first peaked in the Sixties and was characterized by people from Southern Italy due to the great economic development differential between North and South[21], while the second one started at the beginning of the Nineties for the immigration of people from outside Italy. These immigration waves led numerous regions in northern Italy to increase their resident populations and, although its impact was greatest in the northwest, it also involved Emilia-Romagna[22].

Conclusion

Between 1820 and 1929, in Iggio (Province of Parma) and in Tiola (Province of Bologna), rural parishes not too

TABLE 2

NUMBER OF MARRIAGES RECORDED, MOST COMMON SURNAMES AND THE PERCENTAGE OF TOTAL CONTRACTING PARTIES IN THE DECADE 1910-19, IN CERTAIN MUNICIPALITIES ON THE PLAIN AND IN THE MOUNTAINS. PERCENTAGE OF BEARERS OF THESE SURNAMES IN 2011

Municipality	Marriages	Surname	% 1910-19	% 2011	% of the three most common surnames in 1910-19	% bearers of the three surnames in 2011
Plain						
Argenta	1759	Bolognesi	1.4	0.8	3.5	1.9
Bastiglia	155	Rovatti	3.2	0.2	8.1	1.2
Bentivoglio	368	Mazzoni	1.8	0.1	4.5	0.2
Calderara di Reno	393	Vignoli	1.7	0.2	4.8	0.5
Cesenatico	835	Rossi	1.6	0.9	4.7	2.3
San Prospero	269	Baraldi	4.8	1.2	11.3	2.5
Soliera	596	Lugli	3.2	1.2	6.7	1.9
Mountains						
Busana	135	Canedoli	7.0	1.9	20.7	7.2
Cerignale	53	Castelli	25.5	21.9	45.3	38.1
Collagna	193	Fiorini	9.3	4.3	19.2	13.2
Monghidoro	454	Naldi	3.2	2.2	8.6	4.9
Ottone	177	Canevari	12.1	9.9	26.8	24.3
Polinago	319	Rossi	2.7	0.4	7.1	5.7
Ramiseto	238	Bragazzi	6.5	2.9	16.6	8.3

With regard to San Prospero, data for the year 1915 are missing

far from the respective chief towns, a large number of marriages occurred between natives and former foundlings, marriages which in the second half of the 19th century amounted to around 25% of total weddings. The study of the distribution of surnames which were undoubtedly attributed to foundlings within the provinces of Emilia-Romagna leads one to believe that the phenomenon was quite widespread in this area, and shows that these surnames are still among the most common in various hilly municipalities. This observation does not wish to call into question what is known about the extinction of families from the towns, their continual replacement by people who immigrated from the surrounding countryside and the resulting gene flow; however, it supplies evidence of how, in many cases, this was accompanied by a gene flow, limited but not negligible, in the opposite direction, thanks to marriages with former foundlings entrusted to peasant or farming families.

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OSTAVŠTINA NAHOČADI U EMILIA-ROMAGNA (ITALIJA)

S A Ž E T A K

Između 1820. i 1929. godine, u Iggiu i Tioli, ruralnim župama ne previše udaljenima od pripadajućih glavnih gradova, veliki broj brakova sklopio se između lokalnih stanovnika i bivše nahočadi. Istraživanje raspodjele prezimena u pokrajini Emilia-Romagna (Italija) vodi do pretpostavke kako je fenomen bio vrlo raširen u ovoj regiji. Ovakav brak uzrokovao je direktan protok gena iz gradskih središta u susjedna brdovita područja. U cjelini međutim, protok gena se ne čini da je bio toliko visok da značajno izmijeni genetsku strukturu populacija uključenih u primanju bivše nahočadi, bez obzira na to što je određeni postotak njih odvedeno iz sela u gradske bolnice te da su mnogi od onih koji su rođeni u gradovima bili su djeca ljudi čiji se genetski bazen bitno ne razlikuje od stanovnika susjednih brdovitih zona.