Surname Repetition in Three Population Groups of Andhra Pradesh: Kolam, Koya and Kuruma

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ABSTRACT The studies on surnames give information regarding origin, migration, evolution and variation within and between populations. Lasker (1988) noted that the distribution of surnames reflects the effect of mate choice on a population’s genetic structure. The present study on surname repetition is done with the aim of assessing genetic homogeneity/heterogeneity among the Kolam (primitive tribe), Koya (tribal group) and Kuruma (Caste group) population groups of Andhra Pradesh. The Repeated-Pair (RP) value is found to be very high as compared to random Repeated-Pair (RPr) in all the three populations studied, reflecting a reduction in genetic variability and shows inclination towards genetic isolation.

INTRODUCTION

Mating pattern of a community governs its demographic and genetic profile. Surname exogamy/endogamy both in Indian and international context has its unavoidable influence on the changing scenario of gene pools of Mendelian populations. Change is the starting point of evolution which is a continuous process. Surname analysis, also called as “poor man’s population genetics” can throw light not only on the heterogeneity or homogeneity of the population groups but also estimate, in a crude way, the extent of gene flow between populations. Such studies would be a prerequisite for major genetic and epidemiological studies.

George Darwin (1875), son of Charles Darwin, was the first person to use the isonymous surnames of couples to study the amount of inbreeding in a population. Later Crow and Mange (1965) gave the mathematical models based on isonymous marriages followed by Lasker and Kaplan (1985) proposing a new measure of sub structuring populations using nonisonymous surnames of couples. The origin of the concept of surnames dates back to as early as 5000 years ago in China to as late as 68 years ago in Turkey (Jobling, 2001). Surnames of any community belonging to any geographic region trace their origin to basically six important categories i.e. geography, occupation, personal characteristics, name of the place, descendent from Landowner’s and ancestry. The three presently studied populations are from the state of Andhra Pradesh, India and are categorized into primitive tribal (Kolams), tribal (Koyas) and caste (Kurumas) groups. All the three populations under study are patrilineal societies.

MATERIAL AND METHODS

Kolam is one of twelve primitive tribes reported from Andhra Pradesh mainly distributed in three states of India namely Andhra Pradesh, Maharashtra and Madhya Pradesh. The Kolams in Andhra Pradesh are mainly confined to Adilabad district constituting 97.7% of the Kolams population of the state. As per the 1981 census the total population of Kolams in Andhra Pradesh was 21,842. Kolams call themselves Kolavar which means stick or bamboo in their dialect, which has been derived from their livelihood of making baskets, wattles and winnowing fans from bamboo. The Koya tribe is distributed in the districts of East and West Godavari, Khammam, Warangal and Adilabad districts of Andhra Pradesh. The total population of Koyas according to the 1981 census report is 3,59,779. Both the tribes claim their origin from the Bhima of the Pandava brothers.

In both the groups, the clan name is taken as surname following strict clan/ surname exogamy. However origin of surnames is based on physical features and geographical locations. The two tribes live in small hamlets away from other tribal and non tribal groups leading to geographical isolation which can in turn cause genetic isolation.
The caste population Kuruma is distributed throughout the state; the strength of the population as per the census reports (1981) is 1,47,702 in Andhra area and 3,00,961 in Telangana area, making a total of 4,48,663. This community is included in the list of socially and educationally Backward Classes under Group-B (Report of the backward Classes Commission, Government of Andhra Pradesh, 1970). The Kuruma means “people living in the hilly area” as Kurumas are mostly settled in the hill area. Being a caste group, Kuruma do have gotra system, but follow gotra endogamy and surname exogamy in their marriages—a unique feature in Indian caste system.

Data pertaining to names, surnames and the geographical location of females before and after marriage were collected from 397, 229, 377 couples belonging to Kolams, Koyas and Kurumas respectively by household survey in various villages of Andhra Pradesh.

The repeating pair (RP) and the random Repeating pair values were calculated using method given by Lasker and Kaplan (1985) and Chakraborty (1985) respectively.

**RESULTS**

Of the 397 couples presently studied among the Kolams only fourteen surnames were found, whereas the number of surnames among Koyas and Kurumas is 62 and 67, inspite of their relatively smaller sample sizes i.e. 229 and 377 respectively. Among the Kolams only 7 surnames are present with a frequency of more than 1% of which only 2 surnames constitute almost one-fourth of the total number of the sample; likewise in Koyas and Kurumas 20 and 18 surnames respectively fall under the category of more than 1%.

Table 1, provides the basic data regarding sample size, number of repetitions; proportion of repetitions randomRP; difference between observed RP and random RP, both as absolute values and as percentage between RP and RPr for the three populations under consideration. The highest values for both RP and RPr are observed among the Kolams although Koyas and Kurumas show somewhat similar values of RP and RPr respectively. The value of RP-RPr is highest for Kolams and lowest for Koyas.

**DISCUSSION**

As per the general consideration, the tribal communities of India are thought or reported to be respectively more homogenous than the caste groups and are considered to be the “living laboratories” for evolutionary and disease association studies. However in the present study, the caste group Kurumas is found to be more isolated having more value of RP-rRP (0.00144) than the Koyas (0.0013). Undoubtedly, Kolams with highest RP-rRP value is the most homogenous of all the three. However populations residing in the rural parts of South Indian states by enlarge a practice consanguineous marriage which in turn increases the genetic homogeneity. The lower level of genetic heterogeneity among the Kurumas can be explained on the basis of geographical isolation and mate choice i.e. mating between a few surnames leading to the Walhund effect (Koertvelyessy et al., 1990) causing social stratification or sub structuring of the Kurumas population. Thus the Kuruma population of Andhra Pradesh with a higher population size than the Koyas and Kolams respectively could be better suited for genetic studies. In this post genome era where diversity studies are going on at a large scale for several evolutionary and medical purposes, the primary selection of populations for these studies can be done using the least expensive surname/clan/gotra analysis.

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