

TRENDS IN CONSANGUINITY MARRIAGE AMONG THE *DARBHANGIA KHOTTA* MUSLIM POPULATION OF CHANDIPUR VILLAGE OF MALDA, WEST BENGAL

Mir Azad Kalam, Saptamita Pal and Subha Ray

ABSTRACT

The present study aimed to explore the secular trend in the incidence of consanguinity and the coefficient of inbreeding of autosomal and sex-linked genes among a group of *Darbhanga Khotta* Muslim population of Malda District of West Bengal, India. A total number of 149 marriage cases from 100 households were recorded. Interviews were conducted on ever married women. A well-tested schedule was used to collect information on socio-demographic variables and marriage practices of the participants. A 21 year generational length was used to examine the temporal change in consanguinity- Generation-I for marriages contracted before 1947; Generation-II for the marriages contracted between 1948 and 1969; Generation-III for marriages contracted between 1970 and 1991 and Generation-IV includes marriages contracted between 1992 and 2013. Results suggest that the frequency of consanguineous marriage decreased from 33% in Generation-I to 12.5% in the Generation-IV. Results also suggest that the value of coefficient of inbreeding decreased through successive generation.

Keywords: Consanguineous marriage, coefficient of inbreeding, generation length, *Darbhanga Khotta* Muslim, West Bengal

INTRODUCTION

Consanguineous marriage is a cultural practice in many societies (Bittles *et al.*, 2010). Studies showed that consanguineous marriage is preferred from the belief that it strengthens relations between families, for the maintenance of familial property, and for avoidance of dowry (Kapadia, 1958; Hussain *et al.*, 1998; Bittles *et al.*, 2010) and to provide social security during old age (Kalam and Ray, 2014).

The incidence of consanguineous marriage is affected by several factors like, maternal education, occupation, age at marriage of females and dowry (Hussain *et al.*, 2000; Audinarayana, 2000; Hamamy, 2005; Barbour, 2009).

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The prevalence of consanguineous marriage varies across the globe. For example, in Europe the incidence of this marital practice is less than 0.5%, while in North Africa, Saudi Arabia and in Western Asian it is 20–55% (Bittles, 2008). In present day, the prevalence of consanguineous marriage is gradually changing throughout the world; but, the trend is not similar. For example, in UAE, the rate of consanguinity is increasing (Al-Gazali *et al.*, 1997), while it is decreasing in Jordan (Hamamy *et al.*, 2005). The reason(s) for the increasing or decreasing trend in consanguinity varies from one community to the other. For example, there is a decreasing trend in cousin marriage among the Kamma population of Andhra Pradesh due to the shift in occupational pursuits, i.e. from agriculture to service (Chandrasekar, 1993). Similarly, South Indian populations showed a decreasing trend in consanguinity due to the rising age at marriage, increase in dowry and women's education over time (Rao *et al.*, 1972; Hussain and Bittles, 1998; Audinarayana, 2000; Bittles *et al.*, 2000).

The degree of consanguinity (Wright 1921; Malecott, 1948) is an important measure for the genetic load in a population. The coefficient of inbreeding (CoI) among Indian population varies. For example, the CoI among the Muslims of Andhra Pradesh is 0.025 (Sanghvi, 1966) and that for the Bhora Muslims of Rajasthan is 0.022 (Basu, 1976). Among the Muslims of Bengal, the value of CoI is 0.013 (Huq, 1976) [cited in Barua, 2007]. The decreasing value of CoI leads in the variation in mating pattern and increases genetic fitness of a population (Wright, 1921).

Under this backdrop our study was aimed to explore the secular trend in the incidence of consanguinity and the inbreeding coefficient of autosomal and sex linked genes of a group of Muslim population living in West Bengal.

MATERIAL AND METHODS

We conducted this study on a group of *Darbhanga Khotta* Muslim community residing in Chandipur village of the Malda District of West Bengal, India. This group has migrated from the Darbhanga district of Bihar to the present locality during the medieval period. The details of the study population was described elsewhere (Kalam and Ray, 2014).

We randomly selected 100 *Darbhanga Khotta* Muslim household from the study village. A total number of 149 ever married women were identified from these households.

Data types and data collection techniques

Data types include socio-demographic information, marital information like, age at marriage and marriage type (consanguineal/affinal). Data on socio-demographic profile includes age, educational and occupational status of the participants and their spouses. In-depth interviews were conducted on a section of elderly and younger community members to understand their take about consanguinity. The entire data were collected by one of the authors (MAK), who belongs to the same community.

For each of the cases of consanguineal marriage, pedigree was drawn centering the ego to understand the line of descent covering four generations. A generation length of 21 years was used to examine the change in consanguinity- generation I for marriages contracted before 1947, generation II for the marriages contracted between 1948-1969, generation III for marriages contracted between 1970 and 1991 and generation IV includes marriages contracted between 1992 and 2013. The pedigree describes all the cases of marital practice, cousin marriage in earlier and present days. However, no cases of polygamy, remarriage, sororate and levirate types of marriages were found among this community.

The coefficient of inbreeding (CoI) of this population was estimated with an assumption that all the marriages have an equal fertility and all the offspring have an equal chance of survival. The coefficient of inbreeding for autosomal genes, F_a , and that of X-Linked genes, F_x were calculated for consanguineous marriages. We calculated F_a for every individual case with consanguineous marriage. On the other hand, F_x is limited to consanguineous females (MSD, FSD). Participants, whose ancestors include at least two males in succession were excluded because the lines do not form connecting chain; thus the value of CoI for sex linked trait is '0'. We used path coefficient method (Wright, 1921) to trace the common ancestor and in calculating the coefficient of inbreeding (F_p).

Population's coefficient of inbreeding

$$F_p = (n_1f_1 + n_2f_2 + n_3f_3 \dots) / N$$

where, n_1 is the number of first cousin marriage with CoI f_1 , n_2 is the number of second cousin marriage with CoI, n_3 is the number of third cousin marriage with CoI f_3 and so on; N is the total number of marriages.

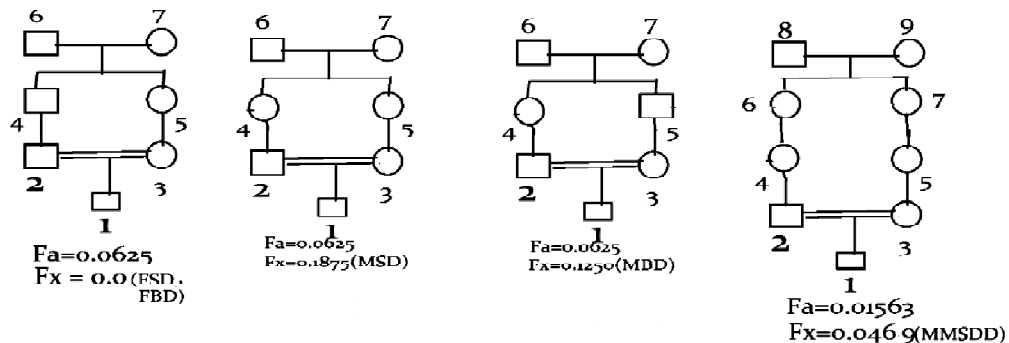


Figure 1: Consanguineous marriage and Coefficient of Inbreeding

RESULTS AND DISCUSSION

1. The prevalence of consanguineous marriage

One fourth of the total marriages contracted during this 21 year generational length was of consanguineous type (Table 1). But it was observed that the occurrence of

consanguineous marriage decreased in successive generations (Table 1). For example, the incidence of consanguineous marriage decreased from approximately 33% in Generation-I to 12.5% among Generation-IV (Table 1). Subsequently, the coefficient of inbreeding was also decreased from Generation-I to Generation-IV (Table 2).

Although a similar trend in the decline of consanguinity has been found among the Kamma community of Andhra Pradesh (Chandrasekar, 1993) as well as in Jordan population (Hamamy, 2005), yet there are studies from UAE (Al-Gazali 1997) and West Bengal (Mukherjee *et al.*, 2007) that showed an increasing trend. The members of *Darbhanga Khotta* Muslim community used to practice cousin marriage largely because of social security during old age. But presently, this type of marriage is mostly ending up with divorce/separation among the couples (Kalam and Roy, 2014). The same study also identified the gradual disinterest among the young generation to marry their cousins. Perhaps the mobility of the younger generation of the community outside the village for job opportunities and/or their persuasion for higher education could be the probable reasons for this decline. Tables 3 and 4 showed the occupational and educational status of the participants of the studied village across the generational length. The trend in both the tables reveals a shift in occupational pursuits and educational levels of the participants across generations. The participants of younger generation were more engaged in service related jobs than agricultural activities; similarly, there is an increase in educational levels of the participants belonging to the younger generation. More precisely, increase in educational level did not restrain their livelihood to remain restricted on family landholding. This occupational and educational mobility perhaps gave them the liberty in choosing mates of their own choice.

There was one study which showed consanguineous marriage increases the frequency of depression (Rao *et al.*, 2009). This depression might be a major reason for the increase in the incidence of divorce or separation. For example, in our study, a participant who was a divorcee, aged 21 year, (married to her cousin) said "...r maat bolo...baap maai to bhia diladis.. jor se...oka (husbands) bhi to maan nai rahata...bhia k pahile otta baat nai hota tha...r bhia k baad r bhi nai hue...aitre r ketta din chalega?...harbela maan kharap rahai...jhagra hoiko laga...r avi chor dihisaa..."[...don't ask anything (in a depressed mood)...my parents forced me to get married with my cousin....He (husband) was not interested.....we didn't use to interact frequently before marriage. The frequency of interaction decreased after marriage. I always stayed depressed.... Later, familial quarrel started...and now it ended up in divorce]. The girl has been stigmatized as divorcee and the villagers consider consanguineal marriage as a cause of her divorce. There are other instances where the participants considered that the parents should think many a times before fixing up marriages of their offspring among blood relations. On the other side, older generation lamented about the disinterest among the younger generation in practicing cousin marriage. They believe that the younger group is now been more influenced by the outer world. A participant aged 67 years (male) was very upset and said, "*dhuur*,

avi ka ladka bachcha sab apne maan ka hogia!!! ...baap maiko kuchchu soch v ni kare!!!!.... bahar ja jake sab kaa jo sikh ke abe!!!!... ..” [...vogus...nowadays, boys and girls have their own opinion and preferences in choosing their spouses. They never think of their parents.....They learn all this from the outer world.....].

Similarly, the younger generation considered that their predecessors used to fix marital alliances of their children with cousin without taking their consent. A denial against the decision taken by the parents would lead to ostracisation from the family and society and also from inheritance of familial property. For example, a woman (disinterested in consanguinity) aged 24 year said, “*are ullok ka baat baad deoto!!!...otiber kuchchu kareka nai tha...baap, dada boldis ki aiko bhia karna hoga ...baas...oikoi karna hoga...r nai kare se ghar se nikal jao....avi to r nai bool sake... naukri paise r kuchchu bolena nairahe,... haat me ropea dedo ...baas...sab thik....”*[...leave them...we had no say during earlier days....Grand parent or, parents used to tell us to marry our cousins....If anybody revolted then he/she would have been isolated from the family and debarred from inheriting family property....but at present, you can have your say if you have your own means to earn”]. But in recent times, the younger groups are moving outside the village in search of livelihood opportunities and are becoming economically independent. In this regard, a participant of aged 59 year expressed his thought, “*...kuchchu kareka hai r...!!apni chor ke bahar ki ladki labega sab!!!!...hum log ka bhi ka kareka hai ai...burhua bais me....r kuchchu boleko nai ja...karai apne maan se...jindagi to ulloko chalana hai....mellok jor karke ullok ka jindagi kaheko kharap kareko jai...!”* [These days our children are marrying outside the group ...there is hardly anything in our control...we do not ask them... they do as they wish...they will handle their life now...why we force them to marry cousin and made their life bitter...]. The author (MAK), who happens to be a member of the same community, personally does not have interest to marry his cousin; that also goes against his family members.

CONCLUSION

The present study concludes saying that there is a decrease in the trend of consanguinity among the *Darbhanga Khotta* population. This perhaps is an increase in the genetic fitness of the population. Improvement in literacy level and occupational mobility of the community members could be a plausible reason behind this decreasing trend in consanguinity.

Table 1: Frequency of consanguineous marriage in successive generation

Generation	Age groups	Total marriage (N)	Consanguineous marriage
I	65-86	24	8(33.3)
II	43-64	71	19(26.8)
III	22-42	38	7(18.4)
IV	11-21	16	2(12.5)
Total	11-86	149(100.0)	36(24.2)

Figures in parenthesis indicate percentage

Table 2: Coefficient of Inbreeding in successive generation

Generation	Total marriages (N)	Number of First cousin marriage (n_1)				Number of Second cousin marriage (n_2)		Coefficient of inbreeding	
		MSD	FBD	MBD	FSD	MMSDD	Autosomal (F_a)	X-linked (F_x)	
I	24	3	3	1	1	-	0.020	0.010	
II	71	7	4	3	4	1	0.016	0.009	
III	38	3	2	1	1	-	0.012	0.007	
IV	16	1	1	-	-	-	0.008	0.004	
Total	149	14	9	6	6	1	0.015	0.009	

MSD=Mother's sister's daughter, FBD=Father's sister's daughter, MBD=Mother's brother's daughter, FSD=Father's sister's daughter, MMSDD=Mother's mother's sister's daughter's daughter

Table 3: Occupational status of the participants across generation

Occupational status	Generation				Total
	I	II	III	IV	
Home maker	6(19.35)	10(9.71)	16(10.60)	-	32(10.19)
Daily labour	12(38.71)	62(60.19)	82(54.30)	22(75.86)	178(56.69)
Agriculture	11(35.48)	5(4.85)	3(1.99)	-	19(6.05)
Skilled labour	-	1(0.97)	2(1.32)	-	3(0.96)
Armed force	1(3.23)	18(17.48)	41(27.15)	-	60(19.11)
Teacher	1(3.23)	7(6.80)	5(3.31)	-	13(4.14)
Student	-	-	2(1.32)	7(24.14)	9(2.87)
Total	31(100.0)	103(100.0)	151(100.0)	29(100.0)	314(100.0)

Figures in parenthesis indicate percentage

Table 4: Educational attainment of the participants across generation

Educational status	Generation				Total
	I	II	III	IV	
Non-literate	18(58.06)	10(9.71)	21(13.91)	5(2.40)	54(10.95)
Can sign	6(19.35)	42(40.78)	45(29.80)	23(11.06)	116(23.53)
Up to 4 th standard	3(9.68)	39(37.86)	58(38.41)	88(42.31)	188(38.13)
From 5 th to 10 th	2(6.45)	11(10.68)	25(16.56)	68(32.69)	106(21.50)
Above 10 th standard	2(6.45)	1(0.97)	2(1.32)	24(11.54)	29(5.88)
Total	31(100.0)	103(100.0)	151(100.0)	208(100.0)	493(100.0)

Figures in parenthesis indicate percentage

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