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AN INVESTIGATION ON THE FINGER PATTERNS OF THE JOGIS OF KAMRUP DISTRICT, ASSAM

ABSTRACT — The present paper deals with the finger print analysis of the Jogis, an endogamous caste of Assam. Analysis of the data reveals that the average Jogi (both male and female) possess more loops than whorls. The mean values of Dankmeijer's index, Furuhata's index and index of pattern intensity are higher in females than in males. Sex difference in percentage frequencies of finger pattern is statistically non-significant. The present data have also been compared with the available materials from north east India. It is found that the Jogi population differs significantly from all the tribal (Mongoloid) populations of north east India.

KEY WORDS: Dermatoglyphs — Finger pattern — Jogi — Caste — Tribe — Assam — India.

INTRODUCTION

In this paper an attempt has been made to study the finger print patterns of the Jogis, an endogamous caste of Assam. They are mostly agriculturist and broadly speaking Caucasoid in origin.

Finger prints of 54 unrelated Jogi males and 51 females were collected from the village Rajapukhuree of Kamrup district of Assam in the month of May, 1978. The data have been analysed according to the method described by Cummins and Midlo (1961).

RESULTS AND DISCUSSION

Percentage frequencies of finger print patterns as shown in the *table 1* reveal that in both the sexes the right hand possess more loops than the left hand. The reverse is true in the case of whorls. Whorls and loops occur almost in the ratio of 40 : 60 in the males and also in the females. Comparative occurrence of loops and whorls in different digits reveals that barring the digit IV, the occurrence of loop is more frequent than whorls in all the digits of both sexes.

Percentage frequencies of finger print patterns along with chi-sqare values for intergroup differences with different populations of north east India are given in the *table 2*. It appears from the table that barring the case of Suri occurrence of loop is more frequent in all caste populations. The reverse is observed in the case of tribal populations, where whorl is more frequent than loop.

Test of significance shows that the present sample significantly differs from all the tribal groups of north east India, but shows close relations with Kumar caste of Assam. However, the Suri (males), Brahmin (males and females) and Kalita (females) are significantly different at 5 % level.

Mean values of three principal indices (Furuhata's index, Dankmeijer's index, index of pattern intensity) among the Jogis (*Table 3*) show that all the indices are higher in the females than in males. It is also apparent from the table that in both sexes all the indices are higher in left hand than in right hand. But in the case of Dankmeijer's index in males and pattern intensity index in females both are slightly higher in right hand than in left hand. Comparison of indices with other populations of north east India are shown in the *table 4*. It is apparent from the table that Dankmeijer's index is slightly higher in caste populations than in tribal populations. The reverse is found in case of Furuhata's index where the tribal populations show higher indices than the caste populations.

The present study is based on very meagre data. Therefore, it will not be proper to arrive at a definite conclusion. But it could be said that the present Jogi sample shows close resemblance with some Assamese caste populations and differs significantly from the tribal (Mongoloid) populations of north east India.

TABLE 1. *Percentage frequencies of finger print patterns*

Sex — Hand	Digit	Whorl	Loop			Arch
			Radial	Ulnar	Total	
Male — Right	I	3.89	—	5.56	5.56	0.56
	II	3.33	0.37	5.19	5.56	1.11
	III	1.85	0.19	7.22	7.41	0.74
	IV	5.37	0.19	4.07	4.26	0.37
	V	2.22	—	7.78	7.78	—
	Total	16.67	0.75	29.82	30.57	2.41
Male — Left	I	4.81	—	4.44	4.44	0.74
	II	3.89	1.11	3.70	4.81	1.30
	III	2.41	0.19	6.67	6.85	0.74
	IV	4.63	—	5.37	5.37	—
	V	1.85	—	8.15	8.15	—
	Total	17.59	1.30	28.33	29.63	2.78
Female — Right	I	4.31	0.20	4.90	5.10	0.59
	II	4.51	0.39	4.51	4.90	0.59
	III	2.35	—	7.06	7.06	0.59
	IV	5.49	0.20	3.53	3.73	0.78
	V	2.35	—	7.25	7.25	0.39
	Total	19.02	0.78	27.25	28.04	2.94
Female — Left	I	3.92	—	5.29	5.29	0.78
	II	4.31	0.98	3.73	4.71	0.98
	III	3.14	0.20	5.69	5.88	0.98
	IV	4.51	—	3.73	3.73	0.78
	V	2.55	—	7.06	7.06	0.39
	Total	19.41	1.18	25.49	26.67	3.92

TABLE 2. *Percentage frequencies of finger patterns of different populations of north east India*

Population	No.	Whorl	Loop	Arch	X^2 value for intergroup variation with Jogi	Source
			MALE			
Caste groups						
Jogi	54	34.26	60.00	5.74	—	Present study
Kumar	100	37.8	58.1	4.00	3.72	Das and Sengupta, 1972
Brahmin	100	39.8	58.0	2.2	14.04**	Das, 1979
Kalita	100	40.0	55.6	4.2	5.99	Das and Das, 1965
Suri	113	50.62	47.95	1.42	58.93**	Das and Deka, 1958
Tribal groups						
Abor	147	53.24	44.24	2.48	62.57**	Bhattacharya, 1955
Gallong	152	46.0	52.0	2.0	36.53**	Kumar (Unpub).
Rabha	295	50.66	47.79	1.55	75.35**	Das, 1963
Kachari	109	54.66	43.41	1.84	68.94**	Das, 1963
Garo	170	49.34	48.22	2.36	45.65**	Das, 1963
Hajong	75	44.68	53.69	1.63	26.77**	Das, 1959
Miri	100	49.29	49.61	0.90	62.64**	Sharma, 1962
Wancho	100	49.30	46.50	4.20	32.25**	Tahbilder (Unpublished)
Khasi	242	35.3	61.3	3.4	6.67*	Miki et al., 1960
Khasi	292	45.28	53.36	1.35	58.83**	Das, 1962
Miri	50	48.20	46.60	5.8	21.02**	Dutta, 1976
			FEMALE			
Caste groups						
Jogi	51	38.43	54.71	6.86	—	Present study
Kumar	100	33.90	59.80	6.20	3.70	Das and Sengupta, 1972
Brahmin	100	32.8	62.3	4.9	8.69*	Das, 1979
Kalita	89	29.21	66.28	3.93	21.04**	Das and Das, 1965

* *indicates statistically significant at 5 % level*
** *indicates statistically significant at 1 % level*

TABLE 3. *Values of three principal indices*

Sex	Hand	Furuhata's index	Dankmeijer's index	Index of pattern intensity
Male	Right	54.88	17.78	6.37
	Left	59.38	15.79	6.48
	R + L	57.10	16.76	12.85
Female	Right	67.83	15.46	6.61
	Left	72.79	20.20	6.55
	R + L	70.25	17.86	13.16

TABLE 4. *Comparison of indices with other populations of north east India*

Populations	No.	Dankmeijer's index	Furuhata's index	Pattern intensity index	Source
			MALE		
Caste groups					
Jogi	54	16.76	57.10	12.85	Present study
Kumar	100	10.64	64.98	14.97	Das and Sengupta 1972
Brahmin	100	5.52	68.63	13.76	Das, 1979
Kalita	100	10.50	71.94	13.66	Das and Das, 1965
Suri	113	2.80	105.56	14.91	Das and Deka, 1958
Rajbanshi	130	8.65	81.12	13.98	Das, 1962
Tribal groups					
Abor	147	4.46	120.23	15.08	Bhattacharya, 1955
Gallong	152	4.35	88.46	14.40	Kumar (Unpub.)
Rabha	295	3.05	106.63	14.91	Das, 1963
Kachari	109	3.36	125.91	15.27	Das, 1963
Garo	170	4.81	102.40	14.67	Das, 1963
Hajong	75	3.64	83.21	14.30	Das, 1959
Khasi	292	3.42	79.85	14.14	Das, 1962
Miri	100	1.83	101.03	14.74	Sharmah, 1962
Wancho	100	8.51	106.02	14.51	Tahbilder (Unpub.)
Miri	50	12.18	102.14	14.18	Dutta, 1976
			FEMALE		
Caste groups					
Jogi	51	17.86	70.25	13.16	Present study
Kumar	100	12.71	56.72	13.02	Das and Sengupta, 1972
Brahmin	100	14.94	52.64	12.79	Das, 1979
Kalita	100	13.44	44.07	12.47	Das and Das, 1965

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