

Opportunity for Natural Selection Among the Seditrized Lohar Gadiya of Malthon of Sagar District, Madhya Pradesh

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ABSTRACT The index of total opportunity for selection with its fertility and mortality components has been reported among the seditrized Lohar Gadiyas of Sagar District, Madhya Pradesh. According to Crow's formula and Johnston and Kensinger's modified method, the total selection intensity is found to be 0.2181 and 0.5059 respectively.

INTRODUCTION

The index of opportunity for total selection, facilitate the quantitative estimation of the amount of selection inheriting in evolutionary processes derived by Crow (1958, 1966). Natural selection can be partitioned into two components, *one*, fertility and *second*, prereproductive mortality, which help to measure the fitness of a particular population in a particular environment, which is modified by Johnston and Kensinger (1971) by incorporating the embryonic mortality component. Though a large number of studies have already been carried out in India to find out the selection intensity among different population groups, but no such investigation have been undertaken among seditrized Lohar-Gadiyas of Malthon of Sagar District, Madhya Pradesh. Hence, in this paper an attempt is made to fill the gap.

MATERIALS AND METHODS

The present study is conducted in Malthon town of Sagar District, Madhya Pradesh. The Lohar-Gadiyas are seditrized in nature, i.e., Semi-nomadic and are in a phase of transition, between settlement and nomadism. They stay in Malthon town in a camp by making their tent like houses on wooden pillars by polythene roof from first week of July to second-third week of November and then from there, they migrate to different parts of Madhya Pradesh on their bullock carts and return to Malthon, on the same time next year. Their main occupation is

blacksmith work, i.e., they prepared the iron articles by primitive techniques therefore they are pronounced by the name of Lohar-Gadiya in Bundelkhand region of Madhya Pradesh.

The present study was carried out on 128 unrelated women belong to the Lohar-Gadiya community. The demo-graphic data necessary for calculating the indices of selection intensity were gathered through in-depth interviews. A total number of ever married Lohar Gadiya women 34 were aged 45 years and above. The index of opportunity for selection (I) and its fertility and mortality components (I_f and I_m) were calculated following the formulae of Crow (1958) and Johnston and Kensinger (1971).

RESULTS AND DISCUSSION

The results of the study presented in the following tables:

Table 1 show that the 34 Lohar Gadiya mothers had altogether 319 Pregnancies, out of which 258 terminated into live births. The means number of live births per mother aged 45 years and above is 7.5882 with a variance of 2.5075, whereas the proportion of premature deaths (those individuals who died before is years of age) is found to be 0.1434.

The indices of selection intensity calculated according to Crow (1958) and Johnston and Kensinger (1971) are shown in table 2. It reveals that the mortality component (I_m : 0.1674) is higher than the fertility component (I_f : 0.0435) whereas the embryonic mortality component (I_e : 0.2363) is found to be higher than the fertility component. However, both the calculation indicates that the differential mortality contributes more towards the total opportunity for selection. It is further seen that index of total selection (I) calculated according to Crow (1958) is comparatively lower than calculated according to Johnston and Kensinger (1971). This is probably because of the inclusion of embryonic deaths in the latter.

It reveals that index of total opportunity for selection among the Lohar-Gadiya is more to-

Table 1: Variables of the total selection intensity

Total number of mothers aged 45 years and above	= 34
Number of reported pregnancies	= 319
Number of live births	= 258
Proportion of premature deaths (P_p)	= 0.1434
Proportion of embryonic deaths (P_e)	= 0.1912
Proportion of survivors upto birth (P_b)	= 0.8088
Mean number of live births per women aged 45 years and above	= 7.5882
Variance in the number of live births (V_p)	= 2.5075

Table 2: Indices of selection intensity

Calculated according to Crow's (1958) formula			Calculated according to Johnston and Kensinger's (1971) formula			
I_m	I_f	I	I_{mc}	I_{fc}	I_f	I
0.1674	0.0435	0.2181	0.2363	0.1674	0.0435	0.5059

ward the lower level of the range of Indian populations, which varies from 0.24 to 2.25 (Reddy and Lakshmanada, 1979; Basu, 1992.). Such as the Yanadi, planns I ($I=0.258$) of Andhra Pradesh (Vaslu, 1987), Bodh ($I=0.263$) of Himachal Pradesh (Chaudhury, 1982), Sao Tili ($I=0.267$) of Madhya Pradesh (Rao and Chaudhury, 1983), Mahishya ($I=0.275$) of West Bangle (Bharati, 1981) show a similarity with the Lohar Gadiyas in the context, whereas in Comparison to present study. However, the Madiga ($I=1.545$) of Andhra Pradesh (Rao and Murthy, 1984), Jalari ($I=1.078$) of Orissa (Reddy, 1983) and Kota ($I=1.367$) of Tamil Nadu (Ghosh, 1970) show a higher value of the index of total opportunity for selection than the Lohar-Gadiya.

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