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Effects of Family Planning Practice and Income on Fertility and Mortality Among the Two Tea-garden Labourers in the Duars Area of Jalpaiguri District, West Bengal

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KEY WORDS Oraon. Tamang. Sterilization. Income. Fertility. Mortality.

ABSTRACT The present paper deals with the effect of family planning practice (*i.e.* sterilization) and income on fertility and infant mortality among the Oraon and Tamang tea-labourers of Jalpaiguri district. The two groups possess different ethnic identities but similar ecological backgrounds. Both the groups are migrants and migrated in the study area around late 1800's. This study reveals that (1) Fertility (TFR) is higher in sterilized group than non-sterilized group, particularly in the Tamang; (2) Infant mortality is significantly higher in the non-sterilized group among the Oraons and sterilized group among the Tamang labourers, (3) Fertility is generally higher and infant mortality rate is lower in the lower income group among both the tea-labourers.

INTRODUCTION

The effect of family planning practice on fertility and mortality have been studies by many scholars (Mathen, 1962; Michel, 1967; Mitchell, 1972; Ram Kumar and Gopal, 1972; Whelpton and Kiser, 1980 and others). High income is commonly associated with low fertility in many studies (Freedman, 1963; Ferenbac, 1967; Rao, 1976; Mukhopadhyay, 1981; etc.). On the other hand, women of poorer groups have greater number of children (Potter et al., 1965; Wyon and Gordon, 1971; etc.). Mortality generally decreases with improving economic status (Stockwell, 1962; Brooks, 1975; Frisancho et al., 1976; Markides and Barnes, 1977; Rodgers, 1979). Such results are also obtained by others (UN, 1961; Nag, 1981; Rajlakshmi, 1981; Srivastava and Saksena, 1981).

But systematic studies on these aspects among different ethnic groups living under similar ecological backgrounds are meager.

MATERIAL AND METHOD

The Oraons are the second largest tribal group of Bihar (Census 1971). They are mainly agriculturist by occupation and linguistically belong to the "Dravidian" group (Risley, 1891). They are generally believed to have migrated from Southern India and settled in the Sahabad district of Bihar and from there to Chotonagpur after the Muslim invasion (Hunter, 1877; Roy, 1915; Dalton, 1973). The Tamangs are a Tibetan speaking middle altitude population of Nepal, but they may have migrated into the area from higher altitudes of Tibet in some unknown period of antiquity (Bista, 1976). Both Oraons and Tamangs started immigrating into the Duars area several generations ago with the advent of Tea Plantations there in the late 1800's.

Both the groups studied here being tea-labourers and are entitled to similar facilities like subsidised food items, free water supply, fuel, health, educational facilities etc. in addition to usual wages.

The field work on demographic aspects was conducted between October 1979 and April 1980 in the 3-tea garden of Jalpaiguri District. The data collected from 255 Oraon and 242 Tamang households covering 1414 and 1537 individuals, respectively. The information were collected using four schedules: (1) House-hold census, (2) Marriage and migration, (3) Pedigree, and (4) Fertility.

The family planning users are defined here as those who have undergone sterilization *i.e.* vasectomy or tubectomy; one woman who used loops for the last 8 years and one year after removing loop had an issue, was included among users. Another woman having a gap of 10 years between the first and second marriage is also included. Higher Income Group is defined as the one in which half or more of the houschold members earned, rest of the households were defined as Lower Income Group.

RESULTS

Table 1 shows that 7.23 per cent of couple among the Oraons and 19.00 per cent among the Tamangs have undergone sterilization (either or both spouses). The highest number of users are from the age groups 25-34 and 35-44 years; they had become sterilized for a period varying from 1 to 15 years at the time of the survey. Most couples have undergone sterilization five years prior to the survey.

Table 2 shows the age specific fertility rates of the Oraon and Tamang tea-labourers seperately for those who have undergone sterlization and those who have not. The total fertility rate is lower in the sterlized group in both the tea-labourers, but very slightly so in the Oraons (Fig. 1). This figure also shows that the age specific fertility rates are lower in the sterilized group except in the first two age periods.

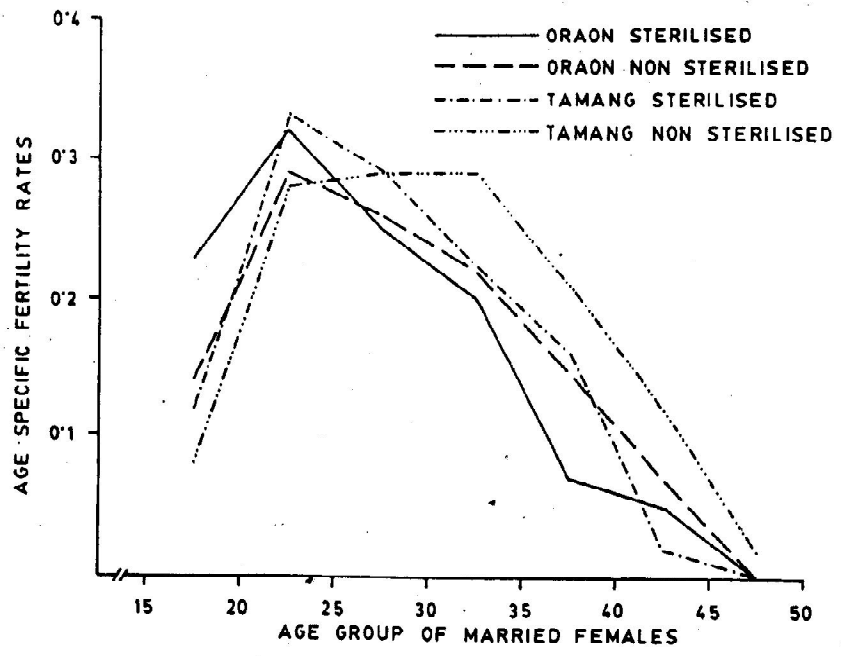

Fig. 1. Age specific fertility rates by family planning practice (Oraon and Tamang migrant groups)

Table 1 : Family planning practice by age group of married women

Age group of married women (years)	*No. of couples who have undergone sterilization*[1]		*No. of couples who have not undergone sterilization*		*Total*	
	Oraon	*Tamang*	*Oraon*	*Tamang*	*Oraon*	*Tamang*
< 25	3 (2.70)	1 (1.25)	108 (97.30)	79 (98.75)	111	80
25-34	6 (6.67)	27 (33.33)	84 (93.33)	54 (66.67)	90	81
35-44	10 (16.67)	26 (38.81)	50 (83.33)	41 (61.19)	60	67
45 +	4 (7.02)	7[2] (7.53)	53 (92.98)	86 (92.47)	57	93
Total	23 (7.23)	61 (19.00)	295 (92.77)	260 (81.00)	318	321

Figures in brackets are percentages.

1. Either or both spouse (s)
2. Includes one woman who used loop for 8 years, and one year after removing the loop had an issue, and another woman having a gap of 10 years between the first and second marriages.

Table 2: Live births during each 5-year period to married women by family planning practice

Population	*Age group of married women (years)*							
	< 20	*20-24*	*25-29*	*30-34*	*35-39*	*40-44*	*45+*	*Total*[1]
ORAON								
Sterilized								
No. of women	23	23	20	17	14	8	4	
No. of live births	27	37	25	17	5	2	0	
No. of live births/woman	1.17	1.61	1.25	1.00	0.36	0.25	0	5.64
Non-Sterilized								
No. of women	259	214	154	103	80	61	39	
No. of live births	184	313	200	114	58	22	0	
No. of live births/woman	0.71	1.46	1.30	1.11	0.73	0.36	0	5.67
TAMANG								
Sterilized								
No. of women	60	60	59	50	32	21	5	
No. of live births	36	100	87	56	25	2	0	
No. of live births/woman	0.60	1.67	1.47	1.12	0.78	0.10	0	5.74
Non-sterilized								
No. of women	220	199	143	107	91	76	61	
No. of live births	83	280	205	154	95	44	5	
No. of live births/woman	0.38	1.41	1.43	1.44	1.04	0.59	0.08	6.37

1. Total ferility rate

Table 3 shows that the infant mortality rate among offspring of Oraon women who use family planning is lower than among those who did not, but the reverse situation occurs in Tamang women. The differences between users and non-users are statistically significant.

Table 4 shows that Higher Income Group experiences lower fertility than Lower Income Group in both the tea-labourers with a few exceptions. Figures 2 and 3 also shows the total fertility rate is higher in Lower Income Group in both groups.

Table 5 shows higher infant mortality in Higher Income Group in both Oraon and Tamang tea-labourers. The difference is significant in both.

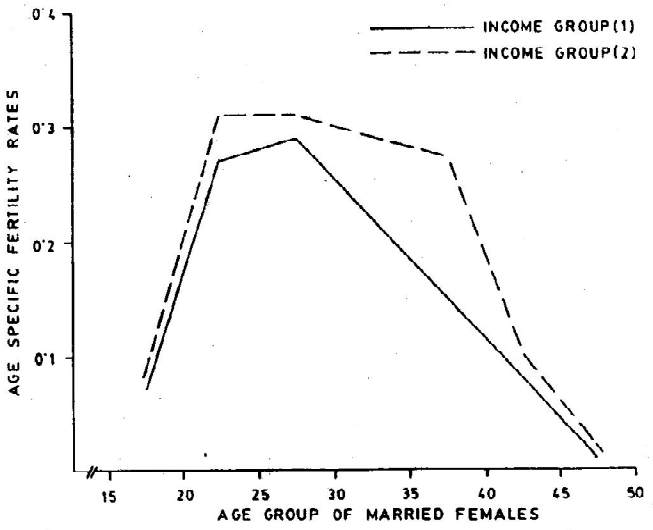

Fig. 2. Age specific fertility rates by income groups (Tamang Migrants)

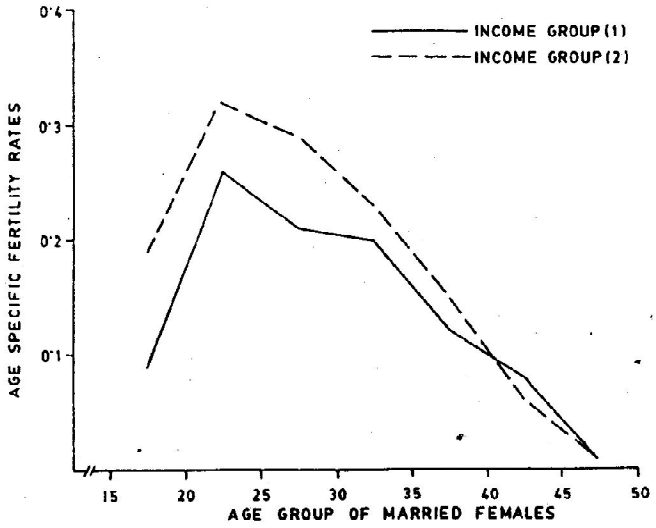

Fig. 3. Age specific fertility rates by income groups (Oraon Migrants)

Table 3: Infant mortality by family planning practice

Population	Sterilized			Non-Sterilized		
	Total no. of births	Infant mortality		Total no. of births	Infant mortality	
		No.	%		No.	%
Oraon	113	7	6.19	1061	164	15.46
Tamang	306	40	13.07	1109	92	8.30

Binomial test for equality of proportions
Tamang sterilized and non-sterilized 0.0478± 0.0188[1]
Oraon sterilized and non-sterilized 0.09265± 0.0349[1]

1. Significant

Table 4: Live birth during each 5-year period to married women by income group

Age group (Years)	Oraon		Tamang	
	Income group(1)	Income group(2)	Income group (1)	Income group (2)
< 20	0.46	0.96	0.07	0.46
20-24	1.33	1.59	1.34	1.53
25-29	1.07	1.45	1.47	1.57
30-34	1.00	1.15	1.10	1.46
35-39	0.59	0.73	0.77	1.20
40.44	0.42	0.29	0.41	0.50
45+	0.05	0.05	0.05	0.08
Total fertility rate	4.92	6.22	5.21	6.80

DISCUSSION

It is found from the above study that the sterilized groups possess lower fertility in all the age groups except in the ages of 15-24 years in the Oraon and 15-29 in the Tamang. It is also found that difference in total fertility rate among the sterilized and non-sterilized group is higher among the Tamang labours than those of Oraons, who have practically no difference at all. The reasons may be that the Oraon labourers undergone lesser number of sterilization than the Tamangs.

Infant mortality rate among the sterilized group is lower than the non-sterilized in the Oraon labours. But reverse case is found among the Tamangs. Among the Oraon labourers the infant mortality rate is higher than the Tamang (Piplai, 1988). So it might be that the frequency of conception in the sterilized groups lower, and so also the mortality rate is lower. But among the Tamang labourers it may be that due to the higher rate of infant mortality they used to go for sterilization.

Fertility is generally higher in the Lower Income Group. This view is also found in many studies (Potter et al.,1965; Wyon and Gordon 1971; Rao, 1976; Mukhopadhyay, 1981; among others).

Infant mortality is lower in the Lower Income Group. But it is generally found that infant mortality is inversely related with income, or in other words, higher the income, lower the mortality.

In the present study, it can be conjectured that as the lesser number of the family members

Table 5: Infant mortality by income group

Population	Income group(1)			Income group(2)		
	Total no. of births	Infant mortality		Total no. of briths	Infant mortality	
		No.	%		No.	%
Oraon	385	66	17.14	789	105	13.31
Tamang	362	43	11.88	1052	97	9.22

Binomial test for equality of proportions Oraon 0.0383 ± 0.0129[1] Tamang 0.0266 ± 0.0127[1]

1. Significant

engaged in earning in the Lower Income Group, so the child care may be greater than the Higher Income Group which may lead to lower mortality rate among the Lower Income Group compared to Higher Income Group.

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