

## Reproductive Profile: Women Bidi Workers of District Sagar of MP

Arun Kumar\*, Rajesh Kumar Gautam\*

### Abstract

For the present investigation, cross sectional data on different aspects of fertility was collected from 119 households of district Sagar of Madhya Pradesh. A semi structure schedule was used to collect information on age, sex, age at first birth, total number of live births, number of children died, number of surviving children, pregnancy experienced by mothers and reproductive wastage etc. It was found that 499 pregnancies were experienced by 112 mothers, out of which 4525 were total live birth, 68 were child loss and 47 were fetal loss. By using these variable, fertility was estimated, and rates and ratio such as Child women ratio, Crude birth rate, General fertility rate, Age specific fertility rate, General marital fertility rate, Gross reproduction rate, Total fertility rate etc. were calculated. Among bidi workers, the mean age of mother at first birth was found to be  $21.31 \pm 12.5$  years. The crude birth rate (CBR) was found to be 24.6. Total fertility rate was 5.5, which is quite higher as compared to vital rate of Madhya Pradesh and Nation, whereas General fertility rate was 100 and General marital fertility rate was 138.2. The Gross reproduction rate was 2.69, whereas the highest ASFR was found to be 400 among mothers belonging to age group of 15-19 years. It was concluded that the studied population have higher fertility rate and requires further investigation to find out the reason behind it.

**Keywords:** Birth rate, Fertility rate, Specific fertility rate, Reproductive rate.

### Introduction

Fertility is used to measure the rate at which a population adds itself by births and is normally assessed by the number of birth (Lewis & Thompson 1930). The growth of any population or group of people in a society or country entirely depends on fertility (Jain 2006). Fertility is dependent on socio economic condition, demographical factors, cultural aspects, biological characteristics such as heredity, health and disease, age at menopause, age at menarche, marital status, reproductive life span, age at first births of mother; physiological factors etc. The birth control methods and family planning have their perspectives spheres of influencing fertility. Some demographers have used the word "Natality" instead of fertility. A number of studies have been conducted in this field by various researchers and scholars: Dandekan & Dandekan (1953); Dandekan (1959); Ray & Burman (1961); Nag (1962); Das (1973); Thompson & Lewise (1965); Vidhyarti & Rai (1977), Sahu (1994); Jain (2006) have studied the fertility of Himalayan Population. Kshatriya, Gautam & Kapoor<sup>11</sup> have studied the fertility profile of Bhil of desert and Bhasin & Nag<sup>4</sup> have studied the fertility of Kashmiris etc.

### Area and People

Madhya Pradesh is one of the largest states in India. It holds the 6<sup>th</sup> position in terms of population. It is a part of Central India which is surrounded by six states, Uttar Pradesh, Chhattisgarh, Maharashtra, Gujarat, Rajasthan and Bihar. It lies between  $26^{\circ}52'$  and  $17^{\circ}46'$  north latitude and  $74^{\circ}1'$  and  $84^{\circ}23'$  east longitude. Madhya Pradesh is known as growing state of India with a large population (7, 25,97,565: census, 2011). Madhya Pradesh is rich in raw material of country cigarette know as *Bidi*. The raw product which is used in manufacturing Bidi is Tendu leaves. Bidi manufacturing trend in Madhya Pradesh was established at the end of 16<sup>th</sup> century. The workers who are engaged in the manufacturing of *Bidi* are known as Bidi workers. There are different categories of Bidi workers viz. Collector of Tendu leaves, Bidi roller, Sattedar, Roster, Steamer and Packagers. All of them are constantly exposed to tobacco dust. Out of them, a large proportion of Bidi rollers are females. They are more exposed to tobacco dust, which results in multiple disorders on their health. The objective of the present study was to assess the fertility among Bidi rollers. To fulfill the objective, samples were drawn from district Sagar of Madhya Pradesh.

\* Department of Anthropology, Dr. H.S. Gour Vishwavidyalaya, (A central university), Sagar-470003(M.P.), India  
**Correspondence to:** Dr. Arun Kumar, Department of Anthropology, Dr. H.S. Gour Vishwavidyalaya, (A central university), Sagar-470003(M.P.), India. **E-mail Id:** shubh01arun@gmail.com

## Material and Methods

For the present investigation, *Bidi workers* of a village of district Sagar were selected. A total of 112 mothers of 119 households of the village Pathariya Jat were interviewed by door to door survey. A semi structured schedule was used for collecting information via interview and observation related to age of mother at first birth, pregnancy enumeration, total number of live births, total number of surviving children, total number of children who died, total number of abortions, still births and number of premature deliveries. Before data collection, consent was obtained from *Sarpanch* of village and head of households. They were convinced about the aims and objectives of the study. The schedule introduced was culturally validated. After collection of the information, it was analyzed using softwares such as SPSS and MS-Excel, and computed the rate and ratio of fertility; CWR, GFR, GMFR, TFR, GRR, CBR, ASFR, TFR as was done by Gautam<sup>9</sup> and Bhasin & Nag<sup>4</sup>.

## Result and Discussion

The age of mother at first birth is a very important parameter in demographical indicators and fertility

performance. The age at first birth is used to determine the actively reproductive period and fertility rate. The distribution of mothers as per age at first birth is represented in table 1. It is apparent from the table that the largest proportion of mothers (64.2 %) gave births between 15-19 years of age and 33.03% at the age of 20-24 years of age. It indicates the prevalence of early marriage among bidi workers of district Sagar of Madhya Pradesh. Although there is a wide gap between the potential level of fertility (Fecundity) and actual performance of the potentiality (Fertility), readily it has to rely upon the latter for measuring the actual fertility performance. For obtaining the level of fertility in a population various fertility measurements have been calculated such as number of pregnancies experienced by mothers, numbers of live births, numbers of children surviving, child loss and fetal loss, as presented in table 2. It is apparent from the table that a total of 499 pregnancies were experienced by 112 mothers. These mothers have given birth to 452 children, out of which 384 survived and 68 died. They experienced 10 still births, 13 abortions and 24 premature deliveries. Fetal loss was 2.19% and child loss was 15.04%.

Age group	N	Percentage
15-19	72	64.2
20-24	37	33.03
25-29	2	1.78
30-34	1	0.89
<b>Total</b>	<b>112</b>	<b>100</b>

**Table 1. Distribution of mothers according to age at first birth among Bidi workers of district Sagar (M.P.)**

Fertility	Total	Average per Mother
Total number of mother	112	-
Total number of pregnancy	499	4.45
Total live birth	452	4.03
Total surviving children	384	3.4
Number of children died	68	0.60
Number of still birth	10	0.08
Number of abortion	13	0.11
Number of premature delivery	24	0.214

**Table 2. Fertility history among Bidi workers of district Sagar (M.P.)**

The fertility rates and ratio like GFR, ASFR, TFR, CWR, CBR, GRR and GMFR etc., are helpful in understanding the relation between the general condition and fertility level of individuals. The measure of fertility indicators among bidi workers of district Sagar of Madhya Pradesh is represented in

table 3. It is apparent from the table that among Bidi workers, the CWR was 361.5 and it's comparatively low with other population of India, such as CWR of Khandha was 695.0.<sup>15</sup> Among Juhar Bhotia of Uttar Pradesh, it was reported to be 734.46<sup>5</sup> and among Kamar, it was 1141.31<sup>3</sup>.

Fertility Indicator	Present study
Child women ratio	361.5
Crude birth rate	24.6
General fertility rate	100
General marital fertility rate	138.2
Total fertility rate	5.5
Gross reproduction rate	2.69

**Table 3. Fertility rate & Ratio among Bidi workers of district of Sagar (M.P.)**

Crude birth rate is another important indicator of fertility and is denoted by CBR. It is apparent from table 3, that the CBR among Bidi workers was 24.6, which is comparatively less than Bhil (43.5)<sup>6</sup>; Gonds (43.0)<sup>14</sup>; Abujhmariya (39.9)<sup>13</sup>; and Sahariya (43.76)<sup>2</sup>, and others. The Crude birth rate of any population is influenced by standard of education, medical facility, communication system, environmental condition, family size etc. (Davis & Blkae 1956). Similarly the general fertility rate (GFR) computed was 100, which is higher than

Lohar Gadiyas (76.17)<sup>17</sup>. The Age specific fertility rate (ASFR) is represented in table 4. It is apparent from the table that the ASFR of mothers of 15-19 years of age group was 400 and ASFR for mothers of 20-25 years of age group was 333.3, followed by 214.2 for mothers of 25-29 years. After that, it sharply declined to 43.3 among mothers of 30-34 years of age, 66.6 and 47.6 respectively for mothers of 35-39 and 40-49 years of age respectively. The highest ASFR was reported among Bidi workers belonging to 15-19 years of age group.

Age group	Number of women	Number of birth in last one year	Age specified fertility rate
15-19	5	2	400
20-24	15	5	333.3
25-29	14	3	214.2
30-34	23	1	43.3
35-39	15	1	66.6
40-49	21	1	47.6
Total	112	13	1105.1

Table 4. Age specific fertility rate among Bidi workers of district of Sagar (M.P.)

The total fertility rate is a single index of fertility. It is a more effective measure of summarizing the frequency of birth of a particular year. Among Bidi workers, the TFR was found to be 5.5 as compared to that among Lohar Gadiyas (4.60)<sup>17</sup>. It is lower than many of previous studied population such as Sahariya 6.70<sup>2</sup>, Halba (5.89)<sup>1</sup> and Baiga (5.2) (Gautam et al. 2007). The TFR of present study was found to be higher than Kandh (1.44)<sup>15</sup>; Bhotia (1.34)<sup>5</sup>, Thoti (1.84)<sup>8</sup> etc. It is apparent from the table that the gross reproduction rate was found to be 2.69 and this value is slightly lower than Sahariya of Madhya Pradesh. On comparing with previous studies, it was noticed that from present study, the last but most important fertility indicators general marital fertility rate (GMFR) was found to be 138.2 which was lower than previously studied population such as Sahariya (248.29) followed by Kandh (213.11)<sup>15</sup>, but it was higher than Marcha Bhotia (119.44)<sup>5</sup>.

## Conclusion

Bidi workers are low wages earners, and lag behind in bio-demographical characteristics and fertility profile. On the basis of the present study, it can be concluded that they have higher fertility rate as TFR is 5.5 which is very high as compared to NFHS-3 for state and nation. Similar is the case with other indicators and they require further investigation to find out the reason behind it.

## References

1. Basu SK, Kshatriya GK. Fertility and mortality in tribal populations of Bastar District, Madhya Pradesh. *J Biol Soc* 1989; 6: 110-12.

2. Biswas RK, Kapoor AK. Ethnographic Study of Saharia – A Primitive Tribe of Madhya Pradesh. In: Contemporary Studies in Primitive Tribes. Chaudhury SK (Ed.) (In Press), 2003.
3. Biswas RK, Patra PK, Kapoor AK. Demographic profile of Kamar – A primitive tribe of Madhya Pradesh. *Bulletin of the Tribal Research Institute Bhopal* 2001; XXVIII (1&2): 67-77.
4. Bhasin MK, Nag S. A demographical profile of the people of Jammu and Kashmir I. Population structure. *J Hum Ecol* 2002; 13(1-2): 1-55.
5. Chachra PS, Sushmita P, Bhasin MK. Anthro-demographic study among the caste and tribal groups of Central Himalayas: 6. Fertility, child mortality and family planning. *J Hum Ecol* 1998; 9(5): 451-55.
6. Chaudhary NR, Kumar R. Demographic profile of Bhils. *Eastern Anthropologist* 1976; 29: 273.
7. Das TC. Social organisation. In: The Tribal People of India. *Publication Division, Ministry of Information and Broadcasting, Government of India, New Delhi*, 1973.
8. Elizabeth AM, Saraswathy KN, Sachdeva MP et al. Demographic profile of Thoti – A primitive tribal population of Andhra Pradesh. *Anthropologist* 2000; 2(2): 119-22.
9. Gautam RK. Population characteristics of middle & high altitude Kinnaura of Kinnaur district of Himachal Pradesh, India. *Ph.D. Thesis submitted to university of Delhi*, 2006.
10. Kshatriya, Gautam RK, Singh P et al. Fertility and mortality in Bison Horn Madias of Dantewara Tehsil of Bastar District, Madhya Pradesh. *J Hum Ecol* 1993; 4(2): 93-96.

11. Kshatriya GK, Gautam R, Kapoor A. Population characteristics of desert ecology, demographic indicators in a disadvantage district of Rajasthan, India. *VDM Verlag Dr.Muller Gmbh & Co. KG, Germany*, 2010.
12. Nag M. Factors Affecting Human Fertility in Non-Industrial Societies: A Cross Cultural Study. *Yale Univ. Publications in Anthropology No. 66, U.S.A*, 1962.
13. Pandey GD, Goel AK. Some- Demographic characteristics of Abujhmaria of Madhya Pradesh. *J Hum Ecol* 1999; 20(2): 85-88.
14. Parsuram S, Rajan S. On the estimation of vital rates among the Scheduled Tribes of Western India. In: *Demography of Tribal Development*. Bose A, Sinha VP, Tyagi RP (Eds.). *B.R. Publication, New Delhi*, 1990: 131-40.
15. Sabat KR, Dash NC. Socio-economic and demographic profile of a Kandh Village of Eastern Ghats, Orissa. *Man In India* 1996; 76(2): 127-40.
16. Yadav A, Sharma AN, Jain A. Socio-demographic characteristics of semi-nomadic Lohar –Gadiyan of Malthon Town of Sagar District, Madhya Pradesh. *Anthropologist* 2001; 3(2): 135-37.