International Journal of Science, Environment and Technology, Vol. 13, No 6, 2024, 377 – 381
ISSN 2278-3687 (O)
2277-663X (P)

HUMAN REPRODUCTION RHYTHM IN A PARTICULAR LOCALITY AND ITS COMPARISON WITH GLOBAL PATTERN

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Abstract: In man, the seasonality of birth or conception is not so marked as in wild and domestic animals. The data collected from a primary health center located at a village in Villupuram District, Tamilnadu were subjected to study. The birth rates month wise and season wise for two consecutive years were recorded and analyzed for any rhythm. The study revealed a annual rhythm which is in accordance with global rhythm.
Keywords: Human reproduction, rhythm, global, Tamil Nadu.

1. INTRODUCTION

Reproduction (or procreation) is the biological process by which new "offspring" individual organisms are produced from their "parents". In most animal species, the breeding season is firmly set at a particular season specific for each species of animal at the time which is favorable for bringing up their young. In some animals photo-periodism may be one of the most temperature-sensitive factors in the physiological responses.

Humans are not seasonal breeder, but human conception still follows a seasonal rhythm. It is well-known that, in general, babies are born most frequently in the early spring season. This type of birth pattern was called by Huntington a "basic animal rhythm". Human life is greatly influenced by environmental cycles, such as day and night oscillations, tides, calendar months, lunar periodicity and seasons of the year (Hyman 1990). Summer holidays may be the best time to attempt a conception (James, 1971); Basso *et al.*, (1995) reported that summer was the preferred time for starting pregnancy in several European countries.

Though there is a proven influence of season and culture in the reproduction pattern of Human beings, practically no such data are available in India, which is a country with diversified seasonal and cultural variations. This necessitates a detailed study in this area.

*Received Oct 29, 2024 * Published December 2, 2024 * www.ijset.net*

2. MATERIALS AND METHODS

The data of the present study was collected from a primary health center located at a village in Villupuram District, Tamilnadu. Male & Female Birth rate was calculated per month wise and season wise. Total Birthrate was also calculated per month wise and season wise.

The data were statistically analysed using ANOVA Test according to the standardized procedure and the results were discussed.

3. RESULTS AND DISCUSSION

The investigation of the present study was carried out to analyse (1) Month wise male, female birth rate, (2) Season wise male, female birth rate, (3) Month wise total birth rate and (4) Season wise total birth rate for two years.

During the first year, in all 192 births about 108 are males & 84 are females. In second year, all 195 Births about 109 are males & 86 are females in that particular primary health Centre.

Table 1 shows the comparison of month wise total Birth rates. Highest birth rates were recorded in the month of July for both years (13% and 12.3% respectively). Low Birth rates were recorded in the month of April (5.2% & 6.1) & September (5.2% & 6.1%) for both the years. The results of the present study are well supported by Aschoff, J. (1981). The concept of rhythm is explained by Follett and Follett (1981).

Table 2 shows the comparison of season wise total birth rate. High birth rate occurred in the winter season of both the years (31.7% and 28.7% respectively). Lam and Miron, (1994), who studied birth rhythm in Northern Europe have also recorded higher birth rates during winter. Basso et al., (1995) reported that summer was the preferred time for starting pregnancy in several European countries consistent with this explanation, the major peak in births occurs in the summer and the minor peak in September. The results of the present study are in concurrence with the global rhythm.

Table-1. Month Wise comparison of Total Birth Rate during two consecutive years

Month	Total Birth rate in year 1	Total Birth rate in year 2
Jan	22(11.4%)	18(9.2%)
Feb	19(9.8%)	19(9.7%)
Mar	18(9.3%)	21(10.7%)
Apl	10(5.2%)	12(6.1%)
May	11(5.7%)	15(7.6%)

June	12(6.2%)	17(8.7%)
July	25(13.0%)	24(12.3%)
Aug	16(8.3%)	9(4.6%)
Sep	10(5.2%)	12(6.1%)
Oct	11(5.7%)	15(7.6%)
Nov	18(9.3%)	14(7.1%)
Dec	20(10.4%)	19(9.7%)
Total	**192(100%)**	**195(100%)**

Factor	**Mean ± SE**	**F Value**
Year 1	16.0 ± 1.47	0.17 ^{NS}
Year 2	16.25 ± 1.22	

Table-2. Comparison of Season Wise Total Birth Rate

Season	**Total Birth in year 1**	**Total Birth rate in year 2**
Winter (D,J,F)	61(31.7%)	56(28.7%)
Spring (M,A,M)	39(20.3%)	48(24.6%)
Summer (J,J,A)	53(27.6%)	50(25.6%)
Autumn(S,O,N)	39(20.3%)	41(21%)
Total	192(100%)	195(100%)

Figure-1
Month Wise Comparison of Total Birth Rates

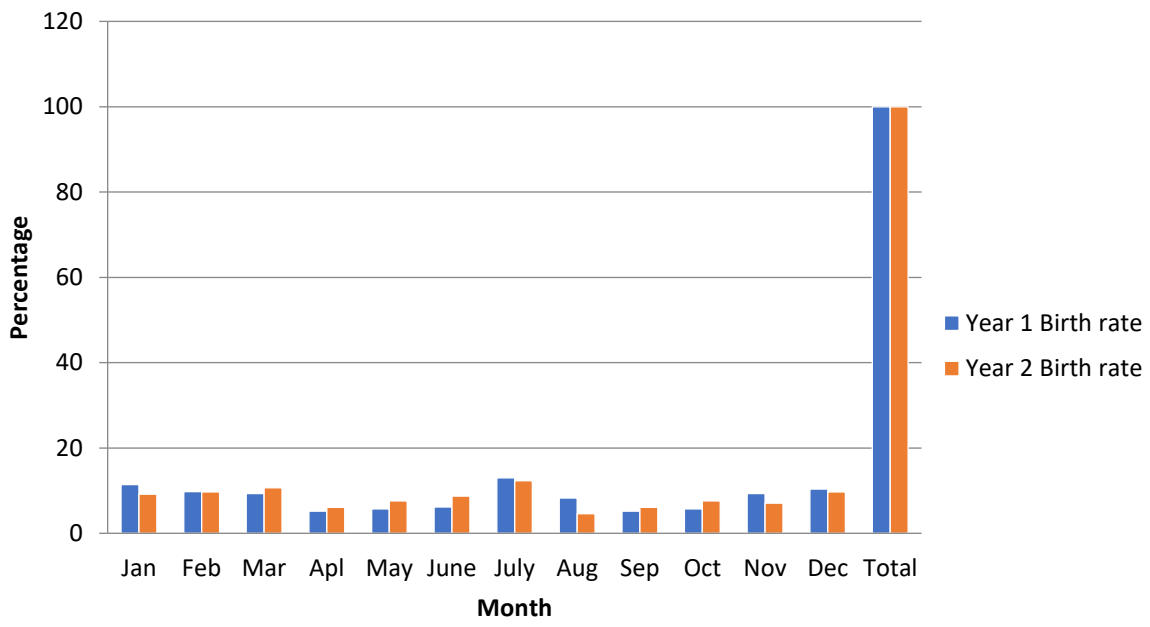
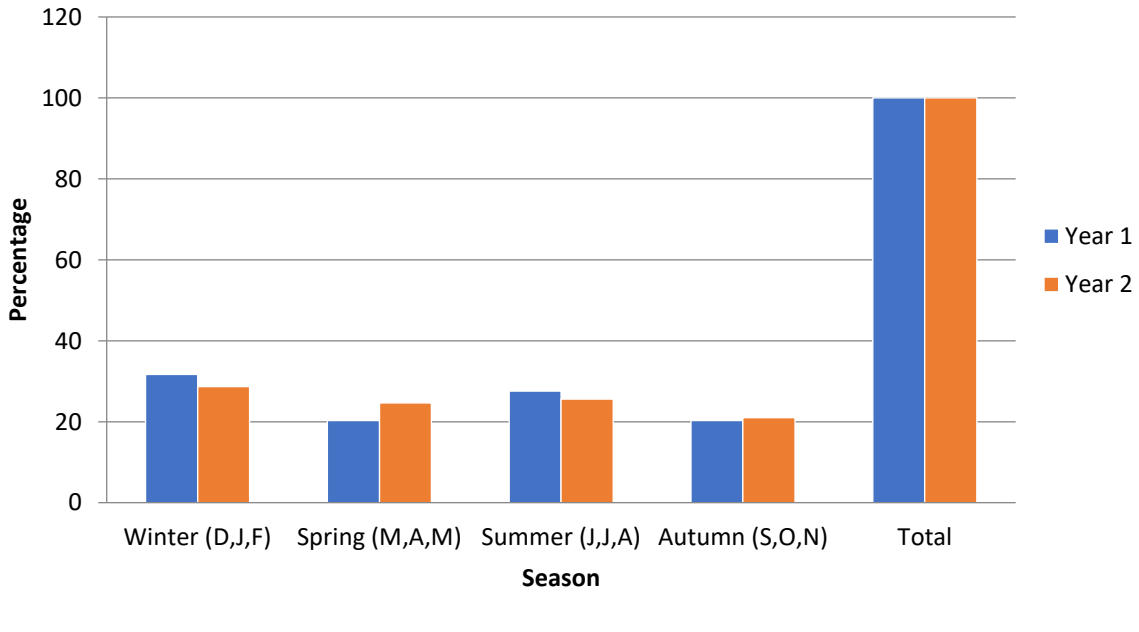


Figure-2
Comparison of season wise Total Birth Rate during the two years



4. CONCLUSION

The present study investigates the month wise Birth rate and season wise birth rate for two years. The result shows that the Birth rates peak in the month of April, June and July. Birth rates high in the winter season for both years (31.7% & 28.7%) followed by summer (27.6% & 25.6%). These show that there is a particular pattern or seasonal rhythm in Birth rate of that particular locality, which is in harmony with the global rhythm.

Hence the results of the present study supports verdict that, though humans are not a seasonal breeders human conception still follows a seasonal rhythm, put forth by Roennenberg and Aschott, (1990) and Cagnacci and Volpe, (1996).

With the proven rhythm of reproduction, it will be helpful in forecasting the peak birth rates, so that the primary health centers and other medical services may be equipped fully in assisting the labor and effectively rendering other essential medical services to the infants.

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