

# A REPORT OF SAMPLE SURVEY ON BIRTHS AND DEATHS IN AGRA DISTRICT

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*The government of India has considered Agra to be made a 'target free district' for MCH and family welfare programmes. For Intervention of this strategy, it is necessary to know the current trends of births, deaths and other parameters related to mother and child health. present study was undertaken in selected rural and urban slum areas of Agra district, covering total population of 44,868. It was found that birth rate, death rate, infant mortality rate and maternal mortality rate was higher in rural area as compared to urban area. Maximum number of births were recorded during October and November and death rate was higher during November and December. Main causes of infant mortality were prematurity, low birth weight, diarrhoea and pneumonie and that of maternal mortality were puerperal sepsis and haemorrhage.*

## INTRODUCTION

The key problem of the twentieth century is the phenomenon of population explosion. With limited land and resources available, it is becoming increasingly difficult for many countries particularly developing countries to cope with their increasing population. Population control is the ultimate goal of National Family Welfare Programme. In India, with the advent of this programme, Government of India adopted various strategies for achieving family welfare target, so as to reduce the birth rate. But even the target oriented approach has not achieved the desired result. The possible reason being that the health functionaries as well as the community - both have been interested in carrying out female sterilization practices only.

The government of India has considered Agra to be made a 'target free district' for MCH and Family Welfare Programmes. For intervention of this strategy, it is desirable to know the base line facts prevailing in the district.

Keeping this in view, a sample survey was planned to know the present trend of births and deaths and other parameters related to MCH, which can be of immense value in formulating the effective population control programme.

## MATERIAL AND METHODS

Multistage stratified random sampling technique was

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used for the selection of the unit of information. Agra district is divided into rural and urban areas. Both areas were selected at the first stage. Rural area is divided into 15 blocks. Out of which nine blocks candidate of less than 100 villages and remaining six blocks consist of more than 100 villages. One village each from the nine blocks and two villages each from the remaining six blocks were selected at random in the second stage. Thus twenty one villages were selected on the basis of stratified random sampling technique. Fifty per cent of the households from the selected villages were chosen at random in the third stage with the help of Tippet Random Numbers. Thus a total of 4158 households were investigated to collect the information regarding births and deaths in the rural areas.

Urban area is divided into seven sectors consisting of forty- five wards, out of which, fifteen wards were selected randomly at the second stage. One slum area from each selected ward was chosen randomly in the third stage with the help of Tippet Random Numbers. All the households of the selected slums were enumerated giving a total of 2551 houses for the present study regarding the births and deaths statistics in the urban area.

The reference period in survey was taken from 1.1.94 to 31.12.94 to have the latest statistics in the district.

## OBSERVATION

A total of 44,868 population was covered during the survey (29187 in rural area and 15,682 in urban area). 1,602 births were recorded in the survey of Agra district during the year 1994, thus giving a birth rate of 35.70 per thousand population.

In rural area, the birth rate was higher than that in urban

area, being 37.35 and 32.65 per thousand population respectively. It was seen that maximum number of births occurred during the month of October and November while less number was recorded in Feb., May and June.

On studying the pattern of deaths in district, it was observed that a total of 305 deaths occurred since Jan., 94 till Dec., 94 providing overall death rate of 6.80 per thousand population. The rate was higher in rural area than that in urban area, being 7.61 & 5.29 per thousand population respectively.

Regarding the seasonality pattern of deaths, it was seen that in urban area, maximum deaths occurred during November and December and the main causes of these deaths were acute respiratory tract infection, fever with old age, myocardial infarction and accidents. In rural area, maximum number of deaths were recorded in December, followed by October and August, Major causes being pneumonie, fever prematurity and accidents.

Out of total deaths during one year, 99 were in 0-1 yrs. age group giving Infant mortality rate as 61.8 per thousand of live births. In rural area, the IMR was clearly in excess than that in urban area. The rates were 69.72 and 44.92 in rural and urban area respectively. Main causes of infant mortality were prematurity, low birth weight, malnutrition, pneumonias, tetanus and fever.

Overall maternal mortality rate was 3.75 per thousand live birth, total maternal deaths being 6 during last one year. MMR was more than double in rural area than that in urban area, being 4.59 and 1.93 per thousand live births respectively. The cause of death in urban area was puerperal sepsis while main causes in rural area were antepartum haemorrhage, post-partum haemorrhage, and puerperal sepsis.

Total deaths under 1-5 yrs. of age were recorded 36, out of which 24 were in rural area and 12 were in urban area. Main causes of death in this age group were diarrhoea, malnutrition, fever, acute respiratory tract infection and accidents. 117 deaths were in rural area and 47 were in urban area, thus gibing a total of 164 deaths in above age group. Major causes of death in this age group were heart attack, tuberculosis, asthma, cancer, accidents and natural death due to old age. Other causes were severe anaemia, poisoning,

homicide, paralysis, pneumonia etc.

## DISCUSSION

In our study, crude birth rate observed in Agra district was 35.7 per thousand population, while according to WHO-- , birth rate of India in 1994 was 30 per thousand population<sup>1</sup>.

In present study, higher birth rate was observed in rural area than that in urban area, being 37.35 and 32.65 per thousand population respectively. Nandan *et al*<sup>2</sup>, in ICMR study reported slightly higher birth rate in rural area of Agra district, being 38.91 per thousand population, but lower birth rate in rural area of Farrukhabad district, being 30.5 per thousand population.

Overall death rate in present study was 6.8 pr thousand population, while WHO reported death rate of India as 10.5 per thousand population. In rural area, the death rate 7.61 per thousand population which is lower than the death rates reported previously by Nandan *et al*<sup>2</sup>. being 8.03 per thousand in rural area of Agra district and 8.58 per thousand in rural area of Farrukhabad district.

Infant mortality rate in our study was observed as 61.8 per thousand live births while all India figures reported by WHO was 79 per thousand live births. Infant mortality rate was much higher in rural area than in urban area, being 69.72 and 44.92 respectively, while Nandan *et al*<sup>2</sup> in ICMR previous study reported infant mortality rate in rural area of Agra and Farrukhabad being 98.2 and 104.16 per thousand live births.

Overall maternal mortality rate was recorded to be 3.75 per thousand live births while WHO reported this figure being 3.4 per thousand live births. Maternal mortality rate was clearly in excess in rural area as compared to that in Urban area being 4.59 and 1.93 per thousand live births. Nandan *et al* reported maternal mortality rate in rural area of Agra and Farrukhabad districts as 5.82 and 8.87 per thousand live births respectively<sup>2</sup>.

## RECOMMENDATIONS

Although birth rates and mortality rates have reduced considerably in last few years, still we are far away from achieving the National goals of Health for all by 2000 AD Following measures are recommended.

- Efforts to reduce gap by accepting the family planning

**Table I :-**  
**Fertility and Mortality Statistics in the Selected Area of Agra District.**

Parameters	Rural	Urban	Total
Population	29,186	15,682	44,868
No. of Births	1,090	512	1,602
Birth Rate	37.35	32.65	35.70
No. of Deaths	222	83	305
Death Rate	7.61	5.29	6.80
No. of Infant Deaths	76	23	99
IMR	69.72	44.92	61.80
No. of Maternal Deaths	5	1	6
MMR	4.59	1.93	3.75

**Table II :-**  
**Monthly Birth and Death Rates in the Selected Area of Agra Districts.**

Months	Rural Area		Urban Area	
	Birth Rate	Death Rate	Birth Rate	Death Rate
January	34.54	5.34	32.14	5.36
February	22.20	6.99	19.13	1.53
March	21.38	7.81	25.25	5.36
April	39.05	7.81	30.61	4.59
May	18.50	4.52	20.66	6.89
June	23.44	4.52	20.66	1.53
July	30.43	5.76	40.56	3.83
August	53.86	9.87	41.32	3.83
September	45.23	8.63	33.67	5.36
October	63.32	10.69	44.38	4.59
November	49.34	7.81	44.38	11.48
December	42.76	11.51	39.03	9.18
Total	37.35	7.61	32.65	5.29

methods at the early age for spacing between two subsequent births and by adopting sterilization after two children at the earliest.

- Greater use of various media and communication channels to make the people aware of the benefits of adoption of small family norms.
- Considering newly married couples and recently delivered mothers as priority groups for promoting family planning programme.
- Major attempt in the direction of decentralised and special approach and micro-planning .

- Emphasis to strengthen the maternal and child health services, particularly through child survival and safe motherhood (CSSM) programme, in Agra district.

## REFERENCES

1. Literature from 'WHO Information Kit' released on World Health Day - 1995.
2. Nandan D : Reproductive Health and Maternal Mortality in eight districts of U.P. Draft Report, I.C.M.R. 1989-90.