CHAPTER - 5

THE MORTALITY FACTOR

It is a well known fact that males and females die in differing numbers in different ages and in different socio-economic groups. It is therefore important to investigated the mortality phenomena in the population of the Maikal Plateau so that the role of different Physical and socio-economic forces in the determination of gender ratios may be evaluated.

Main source of the data on mortality is the vital registration system. The other alternative sources are national censuses and samples of survey. In addition to supplying direct data on number of deaths in a given period prior to the census or survey data, they provide age distribution of population at different points of time from which mortality can be inferred. Survey provide some greater details about the deceased at the time of death including cause of death but for smaller areas only. The quality of data on deaths obtained from the vital registration is quite poor because of incomplete registration and inaccurate recording of cause of death, age and other characteristics of the deceased. This puts serious limitations on analysis of levels and trends of mortality in the developing countries.

Age and sex are the two important characteristics which form the basis of the detailed analysis of mortality. The other characteristics considered in the study of mortality include place of residence of the deceased, cause of death, marital status, occupation and family size.
As per the 1991 census, in India have crude death rate 12.0 and in Madhya Pradesh crude death is 15 and in study crude death rate is 9.00. The infant mortality rate in Madhya Pradesh is 11.6 (per thousand) and in Mandla district is 10.38 (per thousand). On the comparison, we can say that the Mandla district have low crude death rate and infant mortality rate than Madhya Pradesh and India as a whole.

The crude death rate and infant death rate in India is shown in Table 5.1. The maximum crude death rate is recorded 30.8 in Madhya Pradesh which is due to lack of medical facilities, illiteracy, socio-economic backwardness, in tribal area's of the State. The lowest crude death rate is found in Nagaland tribal dominated state located in North-east. Because the male-female both are educated, out of 61.30 per cent literate population, which is 66.09 per cent males and 55.72 per cent females. Due to awareness the crude death rate and infant death rate is very low, the people prefer to avail the good medical facilities in this area rather than neglecting.

Orissa ranks first with highest infant death rate (maximum 126) Orissa, which have literacy rate is 48.55 per cent out of which 62.37 per cent are male and 34.40 per cent female. Due to illiteracy, poverty and lack of medical facilities the infant death rate in high. The highly literate Kerala state have the infant death rate in 17.0 (per thousand). In Kerala 90.59 per cent population is literate, out of which 94.45 per cent male and 86.93 per cent females are literate. Due to high literacy the crude death rate and infant death rate is very low.
## Table 5.1

**Crude Death Rate and Infant Death Rate in India, 1992**

<table>
<thead>
<tr>
<th>States/Union Territories</th>
<th>Crude Death Rate</th>
<th>Infant Death Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>9.7</td>
<td>73.0</td>
</tr>
<tr>
<td>Arunachal Pradesh</td>
<td>13.5</td>
<td>NA</td>
</tr>
<tr>
<td>Assam</td>
<td>11.5</td>
<td>81.0</td>
</tr>
<tr>
<td>Bihar</td>
<td>9.8</td>
<td>68.0</td>
</tr>
<tr>
<td>Goa</td>
<td>7.5</td>
<td>NA</td>
</tr>
<tr>
<td>Gujrat</td>
<td>8.5</td>
<td>69.0</td>
</tr>
<tr>
<td>Haryana</td>
<td>8.2</td>
<td>68.0</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>8.9</td>
<td>75.0</td>
</tr>
<tr>
<td>Karnataka</td>
<td>9.0</td>
<td>77.0</td>
</tr>
<tr>
<td>Kerala</td>
<td>6.0</td>
<td>17.0</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>30.8</td>
<td>122.0</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>8.2</td>
<td>60.0</td>
</tr>
<tr>
<td>Manipur</td>
<td>5.5</td>
<td>NA</td>
</tr>
<tr>
<td>Meghalaya</td>
<td>8.8</td>
<td>NA</td>
</tr>
<tr>
<td>Mizoram</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nagaland</td>
<td>3.3</td>
<td>NA</td>
</tr>
<tr>
<td>Orissa</td>
<td>12.7</td>
<td>126.0</td>
</tr>
<tr>
<td>Punjab</td>
<td>8.0</td>
<td>53.0</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>9.8</td>
<td>77.0</td>
</tr>
<tr>
<td>Sikkim</td>
<td>8.8</td>
<td>NA</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>8.8</td>
<td>57.0</td>
</tr>
<tr>
<td>Tripura</td>
<td>7.6</td>
<td>NA</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>11.1</td>
<td>93.0</td>
</tr>
<tr>
<td>West Bengal</td>
<td>8.1</td>
<td>70.0</td>
</tr>
</tbody>
</table>

### Union Territories

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Andman Nikobar Islands</td>
<td>5.7</td>
<td>NA</td>
</tr>
<tr>
<td>Chandigarh</td>
<td>4.0</td>
<td>NA</td>
</tr>
<tr>
<td>Dadar and Nagar Haveli</td>
<td>11.4</td>
<td>NA</td>
</tr>
<tr>
<td>Daman and Deew</td>
<td>9.0</td>
<td>NA</td>
</tr>
<tr>
<td>Delhi</td>
<td>6.0</td>
<td>NA</td>
</tr>
<tr>
<td>Lakshadeep</td>
<td>4.7</td>
<td>NA</td>
</tr>
<tr>
<td>Pandicheri</td>
<td>6.4</td>
<td>NA</td>
</tr>
</tbody>
</table>

**India**                        | 9.8             | 80.0             |

**Source:** World Population monitoring 1996, selected aspects of reproductive rights and reproductive health, p. 230.
Sex difference in death causes imbalances in the proportion of males and females in a population. The Maikal plateau is not an exception to this face. A systematic analytical account of the mortality factor of the population of this region may help in finding out the role of deaths in gender.

AGE AND SEX-WISE MORTALITY

Reliable data on mortality are not available for this region. Some summary accounts have been assembled by the statistical department of the Mandla district which have been utilised in this chapter according to Table 5.2.

Table 5.2
Maikal Plateau: Age and Sex-wise Mortality, 1996

<table>
<thead>
<tr>
<th>Age Groups (Years)</th>
<th>Total Number deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per cent of total of males died</td>
</tr>
<tr>
<td>Below 01</td>
<td>6.20</td>
</tr>
<tr>
<td>1-4</td>
<td>8.42</td>
</tr>
<tr>
<td>5-14</td>
<td>7.77</td>
</tr>
<tr>
<td>15-24</td>
<td>5.63</td>
</tr>
<tr>
<td>25-34</td>
<td>7.54</td>
</tr>
<tr>
<td>35-44</td>
<td>7.67</td>
</tr>
<tr>
<td>45-54</td>
<td>9.49</td>
</tr>
<tr>
<td>55-64</td>
<td>13.88</td>
</tr>
<tr>
<td>65-69</td>
<td>5.52</td>
</tr>
<tr>
<td>Above 70</td>
<td>27.88</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
</tr>
</tbody>
</table>

1. Age pyramid of the region reflect the mortality features which have affected the population at different age groups. The consistent decrease upward is an easy inference of the relative occurrence of deaths at various age groups. It may be noted, that there is quite a large proportion of decrease of population compared with next lower segment of the pyramidal succession of age data. These ages migratory occurrence is difficult to in far and large two probable cause of decrease in population must be the deaths which may have occurred in these ages. The age data also exhibits the difference of deaths among the males and females in different age groups. In the age group of 0-34 female (41.77 per cent) mortality is higher than male (35.56 per cent) due to child mortality of females and maternity death of females.

2. Tribal areas and economic backwardness results in the lack of proper medical facilities (specially in rural areas) appears as the cause of high female mortality rate of the 1-4 and 15-24 year age groups.

3. Through the age pyramid becomes narrow as the females in the 15-24 age group leave for their in-laws house, but it must be remembered that almost the same number of females belonging to the same age group must be arriving in the region after marriage. Hence in the above mentioned age group the decrease in the number of females cannot be taken to be because of migration from this region to other.
4. In the males belonging to the 15-24 age group a sudden decrease in number can be noticed. The reason for this could be the low death rate in males. In this way the pyramid showing a decrease in the death of males, could be due to out migration. Early ages (0-34) females mortality rate is higher than males and eldest age groups 35 and above just opposite.

Hence it can be said that is this region the decrease in the number of males is due to the higher mortality rate in the males than the females.

**EVIDENCE FROM CENSUS DATA**

Though the census of India does not provide data of mortality directly, still some information could be obtained indirectly. The fertility takes published by the census of India provides the information regarding the district wise decrease of numbers only in the form of the total number of children ever born and the number of living children. It can, therefore, be calculated that the total number of death of children would be the number found after deducting the number of total living children from the number of total children ever born in the district.

As shown in Table 5.3 the total number of male babies who died in 6710; whereas the total number of female babies who have died is 6103 in 1996. Hence the percentage of male babies who died is 52.67 per cent and that of the female is 478.63 per cent. This shows that there is only marginal difference between deaths of male and female babies. Whereas
the difference between the percentage of male and female babies who died is very less. i.e. 5.04 per cent only (in composition to female babies 5.04 per cent more male babies died). In this way the reason for the males being less in number than the females in this region is the higher baby male mortality in comparison to the female. There are many reason for the male baby mortality:

**Table 5.3**

Maikal Plateau: Total Children who died in, 1996

<table>
<thead>
<tr>
<th>Area</th>
<th>Total no of male babies died</th>
<th>Total no of female babies died</th>
<th>Per cent of total of male babies died</th>
<th>Per cent of total of female babies died</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Rural</td>
<td>6439</td>
<td>5942</td>
<td>52.01</td>
<td>47.99</td>
</tr>
<tr>
<td>Urban</td>
<td>271</td>
<td>161</td>
<td>62.73</td>
<td>37.27</td>
</tr>
<tr>
<td>Total</td>
<td>6710</td>
<td>6103</td>
<td>52.67</td>
<td>47.63</td>
</tr>
</tbody>
</table>

**Source:** District Statistical Office, Mandla, Madhya Pradesh, 1996, p. 10.

1. Region under study is not exception to the general custom and belief of Indians that the birth of a male child is celebrated with joy and excitement; while the birth of a female child is always associated with the sorrow, suffering and harassment that the parents will have to suffer in her bringing up, marriage and life in general. Because of such a belief, which is very strong in rural areas, the resistance power of male babies is weak than the female babies. Therefore more male babies die at the time births.
2. This region is backward in education, especially in women literacy (18.00 per cent female literacy) because of which parents pay less attention to the education of girls and as a result of which women remain uneducated. Parents are not able to take proper care at the time of birth and were not able to provide a good medical facilities.

3. This region have more than 60 per cent Tribal, who are poor, backward and not having good socio-economic condition. Therefore they are not able to feed good nutritious food to pregnant lady, so the infant death rate is higher in this area.

4. In this tribal region both male and female are habitual of drinking of local wine made of Mahua and infants are not properly looked after at the time of birth and during their childhood. The male infant death rate is higher than female.

Therefore it can be concluded from the study of the facts and figures that the reason of the total number of female being less than the female population is not due to the fact that more number of male babies are born but because of the higher male babies mortality rate. The number of birth of male babies is 2.50 per cent higher than the female, whereas the number of death of males is 5.04 per cent higher than the females. This facts results in the form of uppering of the sex ratio.

RURAL-URBAN DIFFERENTIALS OF MORTALITY

Since the census of Indian does not provide adequate data relating to 'mortality', the same have been collected from the District
Statistical Office, in order to study the Rural-Urban differentials of Mortality. Despite the fact that the available data are not fully reliable, they are the only available materials used for the study of mortality rate.

Table 5.4
Maikal Plateau: Rural-Urban Differentials in Mortality, 1974-77 to 1990-93

<table>
<thead>
<tr>
<th>Years</th>
<th>Rural Areas Per cent of Total Deaths</th>
<th>Urban Areas Per cent of Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males Per cent</td>
<td>Females Per cent</td>
</tr>
<tr>
<td>1974-77</td>
<td>52.30</td>
<td>47.70</td>
</tr>
<tr>
<td>1978-81</td>
<td>49.81</td>
<td>50.19</td>
</tr>
<tr>
<td>1982-85</td>
<td>52.77</td>
<td>47.23</td>
</tr>
<tr>
<td>1986-89</td>
<td>52.04</td>
<td>47.96</td>
</tr>
<tr>
<td>1990-93</td>
<td>52.75</td>
<td>47.25</td>
</tr>
</tbody>
</table>


The Rural-Urban differentials in mortality in Maikal plateau has been shown in Table 5.4. The data from 1974 to 1993 has been collected and analysed and found that in rural area have more mortality than urban area. The male mortality is higher in both areas.

In the 1974-1977 period, the male mortality rate is 52.30 per cent and female mortality is about 47.70 per cent bound in rural area. In the urban area have 56.12 per cent male and 43.88 per cent of female mortality. It is found that in urban areas have more male mortality than rural areas.
In the 1978-81 period the male mortality has been observed more in urban area in 56.91 per cent than rural area 49.81 per cent. The female mortality rate in urban area have 43.09 per cent and in rural area is 50.19 per cent. there is a marginal difference in the male and female mortality in rural areas but in urban area, this is more than 13.82 per cent.

In the 1982-85, 1986-89 and 1990-93 periods it has been observed that male mortality is higher than female in both (urban and rural) areas. The difference between the male and female mortality in rural area is more than 5.54 per cent (male mortality is more), whereas in the urban areas difference is high about 27.84 per cent is higher. As a result due to high male mortality, the sex ratio is high.

The difference is male/female mortality in the rural and urban areas because of illiteracy, less medical facilities, backwardness, poor socio-economic condition, lack of transport, general awareness, food habits and use of alcoholic drinks etc.

MORTALITY DIFFERENTIALS AMONG SAMPLE VILLAGE

Mortality differential among sample villages of study region has been shown in Table 5.5. It is observed that in the Jampani Forest village have the highest male crude death rate is 58 and female crude death rate 50. The village is located in densely forest hilly area, where Baiga's Tribals are living. This area is lacking in medical facilities, transport, illiteracy etc. are responsible for the high male crude death rate.
In the patpara village having lowest male crude death rate 42 and the least female crude death rate is 39 found in Sakwah Kalan village. Due to good medical facilities, Socio-eco condition and awareness these villages having low crude death rate.

Table 5.5
Maikal Plateau: Mortality Differentials Among Sample Village, 1997

<table>
<thead>
<tr>
<th>Sample Villages</th>
<th>Crude death rates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Rambag</td>
<td>46</td>
<td>40</td>
</tr>
<tr>
<td>Kudamaily</td>
<td>53</td>
<td>47</td>
</tr>
<tr>
<td>Jampani (F.V.)</td>
<td>58</td>
<td>50</td>
</tr>
<tr>
<td>Harra tola (F.V.)</td>
<td>50</td>
<td>46</td>
</tr>
<tr>
<td>Sakwah Kalan</td>
<td>46</td>
<td>39</td>
</tr>
<tr>
<td>Patpara</td>
<td>42</td>
<td>51</td>
</tr>
<tr>
<td>Bhankha Ryt</td>
<td>43</td>
<td>62</td>
</tr>
<tr>
<td>Rural</td>
<td>49</td>
<td>45</td>
</tr>
<tr>
<td>Urban</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>Total Region</td>
<td>47</td>
<td>44</td>
</tr>
</tbody>
</table>

Source: Survey conducted among 410 families by the author during Feb-March, '98.

In the rural areas the male crude death rate is 49 and female crude death rate is 45. On comparison it found that in rural areas having high crude death rate than urban area. In the urban area having good medical facilities, transport, literacy and source of income etc.
RELIGION-WISE MORTALITY DIFFERENTIALS

The study of mortality rate on the basis of religion in this region shows that, in the 88.47 per cent of total Hindu population the male mortality rate is higher than the female mortality rate. According to the data in Table 5.6, the male mortality rate is 48 and that of the female is 44 in every 1000 Hindu population. In other words, in the total number of death in the Hindu community, the male mortality rate is 51.85 per cent where as the female death rate is 48.15 per cent.

Taking the Muslim community into consideration it is found that 42 males and females die in every 1000 population. As opposed to the Hindu and Muslim death rates, in the Jain community only 40 males and 40 females die in every 1000 population. So in the Jain community not only the death rate is low as compared to Hindu and Muslim community. But also the ratio of male-female mortality rate is comparatively lower. The low death rate in the Jain community is due to the cause that in this region (Maikal Plateau) the Jain community either lives in towns or in semi-urban areas, with better medical facilities.

Table 5.6
Maikal Plateau: Religionwise Mortality Differentials, 1997

<table>
<thead>
<tr>
<th>Religion</th>
<th>Crude death rates per 1000 of total population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>Hindu</td>
<td>48</td>
</tr>
<tr>
<td>Muslim</td>
<td>42</td>
</tr>
<tr>
<td>Jain</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
</tr>
</tbody>
</table>

Source: Survey conducted among 410 families by the author during Feb-March, '98.
The higher death rate in the Hindu community is because of the fact that a greater part of this community lives in rural areas where the transport and medical facilities are insufficient. The lack of education is also another major factor responsible for their higher death rate.

The death-rate in the Muslim community is found to be less than that of the Hindu community and more than that of the Jain community. In this community the male-female mortality rate is found to be comparatively higher than that of the Jains.

The study of mortality rate considering various religions clearly shows that the death rate in the Hindu community is higher than that of the Muslims and Jains. Mortality rate in the Jain community has been lowest. In the Muslim and Jain communities male-female mortality rates are found to be equal.

CASTEWISE MORTALITY DIFFERENTIALS

On the basis of religious, groups variation is observed in the male-female mortality ratios, likewise, variation is also found in the male-female mortality ratios with regard to castes due to the differences in their socio-economic, cultural and educational spheres.

According to the Table 5.7 the male mortality rate exceeds the female mortality rate in the caste like 'Brahmins' and the 'OBC' (Other Backward Castes), the 'Scheduled Tribes' and also in the Scheduled Castes. In this region, these middle and lower castes are not only economically backward but also socially, poverty causes a higher mortality rate in them.
That along, these people mostly live in rural areas where they do not get free medical treatment and other medical facilities. Illiteracy also stands on their way to development. Table 5.7 makes it class that the male mortality rate is the highest in the 'Baiga's' (54 male deaths in every 1000 population), the cause of which is found to be illiteracy, poverty, less medical facilities. As opposed to them the male-female mortality rate is found to be the least in the 'Kayasth', (35 males and 34 female deaths in every 1000 population). This is due to their higher social status.

The female mortality rate is found to be the highest in 'Gond' Scheduled Tribes (52 female deaths in every 1000 population). The highest female mortality rate in scheduled tribed, scheduled caste and other backward castes are the result of their illiteracy, poverty, and social backwardness. It is found that the female mortality rate is the least among the 'Kayasth' also.

Table 5.7

<table>
<thead>
<tr>
<th>Castes</th>
<th>Number of Deaths per 1000 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
</tr>
<tr>
<td>Brahmin</td>
<td>41</td>
</tr>
<tr>
<td>Thakur</td>
<td>44</td>
</tr>
<tr>
<td>Kayasth</td>
<td>35</td>
</tr>
<tr>
<td>Gond (ST)</td>
<td>54</td>
</tr>
<tr>
<td>Baiga (ST)</td>
<td>54</td>
</tr>
<tr>
<td>SC</td>
<td>47</td>
</tr>
<tr>
<td>Dhimar (OBC)</td>
<td>42</td>
</tr>
<tr>
<td>Kachhi (OBC)</td>
<td>43</td>
</tr>
<tr>
<td>Kurmi (OBC)</td>
<td>46</td>
</tr>
<tr>
<td>Yadav (OBC)</td>
<td>49</td>
</tr>
<tr>
<td>Others Castes</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
</tr>
</tbody>
</table>

**Source**: Survey conducted among 410 families by the author during Feb-March, '98.
The above description makes it clear that in the Maikal plateau region the mortality rate is less in the General Castes than in the 'Other Bacward Castes', 'Scheduled Castes' and 'Scheduled Tribes'. Major differences in the male mortality and the female mortality rate have been noticed.

EDUCATIONAL DIFFERENTIALS IN MORTALITY

A society takes in it both the educated and the uneducated classes and so difference are also found in the mortality rates of both the classes. On the one hand, the educated class control its mortality rate by ability medical facilities; and on the other hand the mortality rate goes higher in the uneducated class due to their poverty, lack of knowledge, lack of transport and lack of medical facilities.

Table 5.8 shows that the male infant mortality rate is 169 per thousand educated mothers, whereas it is 267 per thousand uneducated mothers. Thus the male-infant mortality rate is about two times higher among the uneducated mothers as compared to the educated mothers. The state of affair is also found to be the same in the female infant mortality rate. Proper informations make it clear that in this region the higher mortality rate is the result of illiteracy and especially women-illiteracy. Only 18 per cent females where found to be literate in this region, according to the 1991 census. Because of illiteracy, these women are ignorant of various hygienic measures and several life saving essential medicines. Besides inadequate medical facility in these rural areas adds to the causes of higher infant mortality rate.
Table 5.8
Maikal Plateau: Educational Differentials in Mortality, 1997

<table>
<thead>
<tr>
<th>Education level of mother</th>
<th>Dead Children per 1000 Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
</tr>
<tr>
<td>Educated mother</td>
<td>169</td>
</tr>
<tr>
<td>Un-educated mother</td>
<td>267</td>
</tr>
</tbody>
</table>

Source: Survey conducted among 410 families by the author during Feb-March, '98.

OCCUPATIONAL DIFFERENTIAL IN MORTALITY

The study of mortality rate in regard to occupation shows that the mortality rate is higher among the people having occupations relating to labourers (wadges) than the people having other occupations. Table 5.9 shows that the mortality rate in both the sexes is the highest in the labourers classes in which 51 males and 48 females die in every thousand population. The male and female mortality rates are found to be the lowest in the service classes in which 37 males and 33 females die in every 1000 population. Mortality rate are found to be the moderate among the agriculturer and business class.

Table 5.9
Maikal Plateau: Occupational Differentials in Mortality, 1997

<table>
<thead>
<tr>
<th>Occupations</th>
<th>Number Deaths per 1000 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
</tr>
<tr>
<td>Agriculturers</td>
<td>48</td>
</tr>
<tr>
<td>Labourers</td>
<td>51</td>
</tr>
<tr>
<td>Business class</td>
<td>44</td>
</tr>
<tr>
<td>Service class</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: Survey conducted among 410 families by the author during Feb-March, '98.
The causes of highest mortality rate in the labourers classes are their poverty illiteracy, backwardness and rural habitation. Not only they fail to pay adequate attention to their health, but also they fail to avail medical facilities in interior areas where they live in. The such areas only one health centre is found is found to be provided in an area of the total 6 villages. In this region there are 1739 villages where there is no medical facility of any kind as a result of this it is obvious that the mortality rate is the highest in the labourers and agricultural community who mostly live in the rural areas. Mortality rate is found to be lowest in the service class not only because they are economically sound but also educated.

From the above discussion it can be concluded that in this region the death rate are the highest between labourer and agricultural population. Because 92 per cent agricultural population live in this region, therefore the total mortality rate is very high.

MALE-FEMALE MORTALITY ACCORDING TO BIRTH ORDER

Table 5.10 clearly shows that in normal births, the male mortality is higher than the female mortality rate. During first and second birth order 69.02 per cent of total death to be found in this region. During the I to IV birth order more male babies died as compared to female babies. During the third birth order, in every 100 deaths there are 64 male-infant deaths and 36 female infant deaths were recorded but a change has been observed from the fifth birth during which is the female mortality rate
increases and the male mortality rate decreases. During the seventh birth order it is found that in every 100 deaths there are 80 females and 20 males. The question arises as to why the male mortality rate is higher during the earlier births and the female mortality rate is higher during the later births? The cause may be several. When a family grows with more number of children, the parents fail to provide their children with proper health care due to growing economic burden and illiteracy because which the death rate increase. Another cause of higher mortality rate may be the extra care taken for the male children at the cost of the female children hold the future of their parents. The female children are considered to be a liability for the parents and hence they suffer negligence which results in the higher mortality rate in the later births as compared to the earlier births.

Thus it becomes clear that in the region where there is higher birth rate has to be higher female deaths in the later births than the male deaths. In this region on an average a mothers give birth to either two or three babies, and some other give birth from sixth to eighth babies. So mothers from whom more number of children take birth, it is found that in the later births there are more female deaths than male deaths.
Table 5.10
Maikal Plateau: Male-Female Mortality According to Birth Order

<table>
<thead>
<tr>
<th>Birth order</th>
<th>No. of deaths</th>
<th>Percentage of the Total Death</th>
<th>Percentage of the Male Death</th>
<th>Percentage of the Female Death</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>47</td>
<td>26</td>
<td>73</td>
<td>39.67</td>
</tr>
<tr>
<td>II</td>
<td>33</td>
<td>21</td>
<td>54</td>
<td>29.35</td>
</tr>
<tr>
<td>III</td>
<td>15</td>
<td>08</td>
<td>23</td>
<td>12.50</td>
</tr>
<tr>
<td>IV</td>
<td>08</td>
<td>07</td>
<td>15</td>
<td>08.15</td>
</tr>
<tr>
<td>V</td>
<td>04</td>
<td>05</td>
<td>09</td>
<td>04.89</td>
</tr>
<tr>
<td>VI</td>
<td>01</td>
<td>02</td>
<td>03</td>
<td>01.63</td>
</tr>
<tr>
<td>VII</td>
<td>01</td>
<td>04</td>
<td>05</td>
<td>02.72</td>
</tr>
<tr>
<td>VIII</td>
<td>01</td>
<td>01</td>
<td>02</td>
<td>01.09</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>74</td>
<td>184</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Survey conducted among 410 families by the author during Feb-March,'98.

BLOOD GROUP DIFFERENTIALS IN CHILD MORTALITY

The blood group and child mortality co-relationship up to 1997 is being shown in the Table 5.11. Out of the total deaths, 18.75 per cent death highest is found in 'AB'x'AB' blood groups, in which the male child mortality is higher than female, and their ratio is 1:3. The low death is found in the blood group 'B'x'B' is about 2.73 per cent and in the 'A'x'A' blood group this the least death rate is 1.43 per cent.

The 94 babies over born by the 14.67 per cent couples of 'O'x"B" blood group, have male-female death ratio is O : 16. From this blood group male death rate is about zero.
In the other blood group 'O'x'O' (12.0 per cent couples); 'O'x'AB' (4.0 per cent couples); 'A'x'A' (8.67 per cent couples); 'A'x'B' (3.33 per cent couples); 'AB'x'B' (0.67 per cent couples) having given birth to the 90 child; 27, 71, 28 and 07 child, in which the male and female death ratio is 14 : 0; 7 : 0; 4 : 0; 10 : OO and 10 : OO respectively. So it is very clear that among the above mentioned blood group there are low female death.

In the 6.0 per cent couples of 'A'x'O' blood group have given birth to 44 child among them there is no death. Therefore in the blood group the death ratio is zero.

In the another categories of blood groups - 'A'x'AB' (2.0 per cent couples); 'AB'x'A' (2.0 per cent couples) have given birth to 15 child in each blood group, in which the death ratio is 1:1. In the 'O'x'A' (7.3 per cent) couples have given birth to 49 child, in this group the death ratio is 4:1. In the 'B'x'O' (6.0 per cent couples) and 'B'x'AB' (2.66 per cent couples) have given birth to 43 and 21 child respectively: This group have death ratio 3:1. In 'B'x'A' (6.0 per cent couples) and 'B'x'B' (12.67 per cent couples) have given birth to 41 and 113 child respectively. Where the death ratio as 2:1.

In 'AB'x'AB' (2.0 per cent couples) and 'AB'x'O' (10.0 per cent couples) have given birth 10 and 64 child respectively, where the death ratio is 1:3 and 1:4. Overall we can say that in 'AB'x'AB' and 'AB'x'O' blood groups having death in females than males.
### Table 5.11


<table>
<thead>
<tr>
<th>Blood Group</th>
<th>Father</th>
<th>Mother</th>
<th>Percentage of couples</th>
<th>No. of Males Birth</th>
<th>Death</th>
<th>No. of Male Birth</th>
<th>Death</th>
<th>Death in Percentage Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>O</td>
<td></td>
<td>12.00</td>
<td>29</td>
<td>04</td>
<td>57</td>
<td>-</td>
<td>13.79</td>
<td>0.00</td>
<td>4.65</td>
</tr>
<tr>
<td>O</td>
<td>A</td>
<td></td>
<td>07.33</td>
<td>15</td>
<td>04</td>
<td>28</td>
<td>02</td>
<td>26.67</td>
<td>7.14</td>
<td>13.95</td>
</tr>
<tr>
<td>O</td>
<td>B</td>
<td></td>
<td>14.67</td>
<td>52</td>
<td>-</td>
<td>38</td>
<td>06</td>
<td>-</td>
<td>15.79</td>
<td>6.67</td>
</tr>
<tr>
<td>O</td>
<td>AB</td>
<td></td>
<td>04.00</td>
<td>15</td>
<td>01</td>
<td>11</td>
<td>-</td>
<td>06.67</td>
<td>0.00</td>
<td>3.85</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td></td>
<td>06.00</td>
<td>14</td>
<td>01</td>
<td>25</td>
<td>01</td>
<td>07.14</td>
<td>4.00</td>
<td>5.13</td>
</tr>
<tr>
<td>B</td>
<td>B</td>
<td></td>
<td>12.67</td>
<td>49</td>
<td>02</td>
<td>61</td>
<td>01</td>
<td>04.08</td>
<td>1.64</td>
<td>2.73</td>
</tr>
<tr>
<td>B</td>
<td>O</td>
<td></td>
<td>06.00</td>
<td>16</td>
<td>02</td>
<td>24</td>
<td>01</td>
<td>12.50</td>
<td>4.17</td>
<td>7.50</td>
</tr>
<tr>
<td>B</td>
<td>AB</td>
<td></td>
<td>02.66</td>
<td>04</td>
<td>01</td>
<td>11</td>
<td>01</td>
<td>25.00</td>
<td>9.09</td>
<td>13.33</td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td></td>
<td>08.67</td>
<td>28</td>
<td>01</td>
<td>42</td>
<td>-</td>
<td>3.57</td>
<td>0.00</td>
<td>1.43</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td></td>
<td>03.33</td>
<td>10</td>
<td>01</td>
<td>17</td>
<td>-</td>
<td>10.00</td>
<td>0.00</td>
<td>3.70</td>
</tr>
<tr>
<td>A</td>
<td>O</td>
<td></td>
<td>06.66</td>
<td>22</td>
<td>-</td>
<td>22</td>
<td>-</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>A</td>
<td>AB</td>
<td></td>
<td>02.00</td>
<td>06</td>
<td>01</td>
<td>07</td>
<td>01</td>
<td>16.67</td>
<td>14.29</td>
<td>15.38</td>
</tr>
<tr>
<td>AB</td>
<td>AB</td>
<td></td>
<td>02.00</td>
<td>10</td>
<td>01</td>
<td>06</td>
<td>02</td>
<td>10.00</td>
<td>33.33</td>
<td>18.75</td>
</tr>
<tr>
<td>AB</td>
<td>A</td>
<td></td>
<td>02.00</td>
<td>07</td>
<td>01</td>
<td>06</td>
<td>01</td>
<td>14.29</td>
<td>16.67</td>
<td>15.38</td>
</tr>
<tr>
<td>AB</td>
<td>B</td>
<td></td>
<td>00.67</td>
<td>01</td>
<td>01</td>
<td>05</td>
<td>-</td>
<td>10.00</td>
<td>0.00</td>
<td>16.67</td>
</tr>
<tr>
<td>AB</td>
<td>O</td>
<td></td>
<td>10.00</td>
<td>32</td>
<td>01</td>
<td>28</td>
<td>03</td>
<td>3.13</td>
<td>10.71</td>
<td>6.67</td>
</tr>
</tbody>
</table>

**Source:** Based on Questionnaire Survey conducted among 150 couples (blood groups combination of Father and Mother) of Mandla district by the author during Feb-March, ‘98.

We can conclude on the basis of this blood group child mortality corelation that in the 'O' x 'B' blood group have only female mortality and ratio O: 16, against the 'O'x'O'; 'A'x'A'; 'A'x'B'; 'AB'x'B' blood groups have male mortality only with ratio 14 : O.
In the 'A'x'AB' and 'AB'x'A' blood groups having equal child mortality, ratio 1:1. On the other hand in 'A'x'O' blood group do not have any child mortality. Therefore we can say that this blood group co-relation is having significant contributors in this distribution of gender imbalance in this study areas.

On the basis of the above discussion on the mortality factor the following conclusions can be drawn:

1. In the study region the mortality rate is higher in the rural areas as compared to the urban areas because of poverty, tribal culture illiteracy, lack of transport and medical facilities in the rural areas. Both in the rural and the urban areas the male mortality rate is higher than female mortality rate.

2. Wide variations in mortality rate in regard to various areas have been noticed, that mortality rate is highest in the Jampani village and the lowest in the Sakwah and Rambag villages. The male mortality rate is found to be the highest in the Jampani village (F.V.) and lowest in Patpara village. The female mortality rate is found to be the highest in the Bhankha Ryt (F.V.) and lowest in the Sakwah Kalan village.

3. It has found that in the early age group (Below to 1 year) the mortality rate is more in which there are more male deaths than the female deaths. But in the later (30-45) age groups the female mortality rate goes higher as compared to the male mortality rate because of the inability to avail medical facilities due to poverty and
lack of general awareness. For the same reason rate of delivery deaths also goes higher.

4. The study finds that mortality rate on the basis of religion it is found that in the Hindu death rate is the highest, and it is the lowest in the Jains. Among the Hindus the male mortality rate is higher than female mortality. In the Muslims and Jains communities the male-female mortality rate is almost equal.

5. The mortality rate also varies in various castes. In the other backward castes, Scheduled Castes and Scheduled Tribes (Dhimar, Kachhi, Kurmi, Yadaw, Scheduled Castes Gond and Baiga's) the mortality rate has been higher as compared to the general category (Brahmin and Kayasth). It is found to be so because of their socio-economical differences. In the all caste male mortality rate is higher than female mortality. In the Scheduled Tribes (Gonds and baiga's) the male mortality rate is the highest and lowest in the General Castes (Brahmin and Kayasth).

6. Corresponding to the change in the educational levels gradually the mortality rate declines. In every 1000 educated mothers there are 169 male deaths and 154 females deaths and whereas in every 1000 uneducated mothers there are 267 male deaths and 252 female deaths.

7. From the study of mortality rate in regard to various occupations, it is concluded that mortality rate is the highest in the labourer and agricultural communities. That is because most of the labourer and
people engaged in agricultural activities are living in rural areas where there are poverty, lack of transport and medical facilities. But in the service class the death rate is found to be the lowest due to their better economical status and general awareness. In the all communities the male mortality rate is higher than the female mortality rate.

8. Mortality rate as studied from the birth order shows that in the normal births of one to two babies the male mortality rate is higher than the female mortality rate. But it is found that after the fourth birth the female mortality gradually goes higher than the male mortality rate. On the basis of above conclusion it can further be stated that in whole of the Maikal plateau region, the male mortality rate has been higher than the female mortality rate; and hence in this region mortality can be held responsible for the high sex ratio.

9. In the 'O'x'B' blood group have only female child mortality and ratio O; 16, against the 'O'x'O'; 'A'x'A'; 'A'x'B'; 'AB'x'B' blood groups have male child mortality only ratio is 14 :0.

10. In the 'A'x'AB' and 'AB'x'A' blood groups having equal child mortality rate 1:1. On the other hand in 'A'x'O' blood group don't have any child mortality. Therefore one can say that this blood group correlation is having significant contributes in the distribution of gender imbalance in this study region.
REFERENCES


