Development and Morbidity Prevalence in Jharkhand
Special Reference to Tribal Population

Vijay Kumar Baraik* and Sachidanand Sinha* *

Morbidity or infirmity has been an important determinant of human development. It affects the normal functioning and attainments of a human being affecting the capability and performance of a person in varying degrees. Sometimes it paralyses from doing any activity. The problem is generally perceived more in the underdeveloped regions due to several factors, especially in the tribal dwelling regions. Paradoxically there have been minuscule empirical studies on the subject and mainl focussed by the anthropological approaches. Therefore, this study has been a modest endeavour to find out the picture in a tribal region the State of Jharkhand- in terms of morbidity types and patterns with various measures. It has also been tried to highlight some associated factors and inter-relations. The paper has been organised in such a way that one goes from a general pattern to the micro level. It has different sub-sections. The paper deals with the conceptual aspects of this paper including objectives, data base, methods and sampling, and scope and limitations, and, Morbidity Profile, Morbidity Types, Regional Pattern of Morbidity, Other Measures of Morbidity, Type and Nature of Disease Prevalence with Location and Availability of PHC, Development Indicators and Morbidity and conclusions with and some suggestions on measure of preventive and promotion and mitigation. The database used for this study is primarily the data obtained from household survey supported by some secondary sources like NSSS, NCEAR, NFHS and Census of India. The morbidity has been measured using Morbidity Prevalence Rates, Proportion of Ailing Population and Disease Attack Rates.

Keywords : Morbidity, Tribal Health, Jharkhand

Introduction

The commonly used indicators of health are mortality, morbidity and nutritional status, which are not suitable measures in developing countries and especially in tribal areas where people with disability and illness have to engage themselves in work so as to run their family lives. Therefore, morbidity also is an indirect determinant of final goal of human development affecting the normal life and attainments. In health measurement, morbidity has not been examined in depth insofar as the tribes are concerned. Recently National Sample Survey (NSS) and National Family Health Survey (NFHS) have initiated activities to measure the extent of illness in India. But there is hardly any study at examining the morbidity types and patterns among the tribe at disaggregated micro level. This study attempts to find out the morbidity status among the tribal people of Jharkhand. The paper deals with the morbidity patterns of the tribes in the study area. It also incorporates age and sex wise variation of illness and impairments. The classification of diseases adopted for this study is based on the International Classification of Diseases (ICD) – 10th Revision1 proposed by the WHO.

The study is mainly based on primary data collected from the eight sample villages of four blocks of two districts by household survey on 30 days recall and reporting basis. The basis of the selection of districts, blocks, villages, communities and households are well sampled and taking into

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consideration the location, availability of health facilities and other socio-economic parameters. However, secondary and tertiary data have also been used for sampling purpose and supplementary analysis. The main sources are the Census of India, the NFHS-2, NSSO, and NCAER. The methods followed in the study are the Proportion of Ailing Population (PAP), Disease Prevalence Rates or Morbidity Prevalence Rate (MPR) and Disease Attack Rate (DAR) in order to assess the effect dimension and magnitude of burden of episodes or spells of illness. Nature of Disease Prevalence with background characteristics of development indicators including location and availability of PHC have also been analysed to study the behaviour or morbidity occurrence.

Methods And Sampling

A total of 1983 persons from various age and sex groups and socio-economic backgrounds were taken for this study. The selection of district, blocks, villages and communities were done using stratified purposive random sampling method. At the first stage, Principal Component Analysis (PCA) has been used to rank the districts and blocks on the basis of development index drawing from various socio-economic development indicators. And from the selected blocks one village with Primary Health Centre (PHC) or close to PHC and one remote village or away from a PHC were selected. Lastly, the households were selected in such a way that every community has a significant representation from a sample village. At this stage the households were chosen from all sections (relatively poorest to the richest in the village for the true representation). The following study units were selected in this process:

<table>
<thead>
<tr>
<th>Nature of District</th>
<th>District/Block</th>
<th>Village with/Close to PHC</th>
<th>Remote Village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relatively Developed District</td>
<td>Gumsa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relatively Developed Block</td>
<td>Kurdeg</td>
<td>Kurdeg</td>
<td>Dharni</td>
</tr>
<tr>
<td>Relatively Underdeveloped Black</td>
<td>Simdega</td>
<td>Bara Barpani</td>
<td>Muriya</td>
</tr>
<tr>
<td>Relatively Developed District</td>
<td>Dumka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relatively Developed Block</td>
<td>Gapikandar</td>
<td>Garipani</td>
<td>Musna</td>
</tr>
<tr>
<td>Relatively Underdeveloped Black</td>
<td>Masalia</td>
<td>Ranga</td>
<td>Phalan</td>
</tr>
</tbody>
</table>

**Distribution Of Sample Village**

The enquiry about the morbidity has been done on the basis of reporting by the respondents and symptoms observed and not on the basis of clinical tests or verification. Morbidity patterns have been worked out through the **Morbidity Prevalance Rates (MPR)** or **Disease Prevalence Rates** (short duration with 30 days reference period). The formula for the calculation of the Disease Prevalence Rate is:

\[ \text{MPR} = \frac{\text{Total Number of Episodes} \times \text{Illness} \times 10000}{\text{Total Population}} \]

The prevalence rate may exceed the total number of population because one person may be attacked by multiple diseases or multiple spells of attack by same diseases during the reference period or 30 days preceding the date of survey.

It may also be taken as a measure of magnitude of impact among populations measured by **Proportion of Ailing Population (PAP)** where estimated proportion of ailing persons (PAP) per
thousand population or proportion of persons affected by illness may be seen. PAP may be expressed as:

\[
PAP = \frac{\text{Total Number of Persons under Illness}}{\text{Total Population}} \times 1000
\]

PAP measures the dimension of impact in terms of population affected whereas MPR reflects the number of spells per thousand populations where the persons without any illness are also taken as denominator. Therefore one more measures has been taken to reflect the multiplicity/multiple attack of diseases on same person, where more than 100 per cent is a multiplicity/multiple attack of diseases termed as the Disease Attack Rate (DAR) and has been calculated as below:

\[
DAR = \frac{\text{Total Number of Episodes of Illness}}{\text{Total Number of Persons under Illness}} \times 100
\]

Scope And Limitations

There are some limitations in this study. For instance all cases are not clinically certified or tested and are purely based on lay diagnosis reporting on 30 days recall basis and the gap between medically verified illness and lay diagnosis could be vital. However, the disease prevalence rates of tribes may provide some insights into their health conditions. The third limitation of this study is that the disease prevalence rates are not comparable with those of the NSS 52nd Round and National Council of Applied Economic Research (NCAER) studies. The NSS 52nd Round uses the PAP (Proportion of Ailing Persons Per thousand Population) rather than using the Prevalence Rate and that too for the reference period of 15 days. The NCAER has taken two categories – Short Duration Morbidity Prevalence Rate Per thousand Population (MPR-SD) with a reference period of 30 days and Point Prevalence Rate of Major Morbidity per lakh population (PPR-MM) at the time of survey. The present study considers all the old and new episodes of diseases occurring within the last 30 days of survey. The morbidity data given by the NFHS-2 also cannot be compared, as those are point prevalence rates and cannot be adjusted. The data unavailability for new state is also a constraint like districtwise IMR of 1991 has been used because of this reason. The study, however, discusses about such long duration diseases along with the other short duration ailments and gives an overall morbidity types, prevalence and patterns for the region. The village level analysis is very restricted and community level study could not be presented due to limitations. Since this study is for Jharkhand taking samples, the name ‘Jharkhand’ has been used for pooled data.

Morbidity Profile

The population in the region appear to be suffering from various infectious diseases like malaria, dysentery, diarrhoea, tuberculosis, and a number of nutrition deficiency diseases such as leprosy, anaemia, goitre, blindness, polio, etc. These diseases are responsible for high Infant Mortality Rates, spontaneous termination of pregnancy, various disabilities, preventable deaths and low efficiency and attainments of life. These ailments are not necessarily related to bio-medical factors but have been the results of various socio-economic factors, like poverty, illiteracy, early marriage, early motherhood, lack of safe motherhood, weak marriage institutions, undernutrition, lack of preventive and curative health care facilities, physical, social or economic inaccessibility to medical facilities, lack of health awareness and education.

Though not fully comparable with the NSS 52nd Round estimates, Morbidity Prevalence Rates (MPR) estimated by this study is much higher than that of estimated by the NSSO 52nd Round,
Morbidity Types

In the entire region, diseases caused by viral infection have been dominant with little variation. The only surprising observation has come from a village – Dhorhi - where it was found to be insignificant during the survey. However, the enquiry revealed that the village gets infected significantly by viral diseases during the winter season. This may be due to water logging and unchecked growth of luxuriant bushes and hill vegetation after the rainy season. The highest disease prevalence was on account of malaria with 141 per thousand population, where the total prevalence rate of diseases of viral infection was only 145 (Table 1). It is prevalent among all age-groups and both sexes. Among all, diseases under this group including malaria, measles, and brain malaria (malaria has been classified as a viral disease in the 10th International Classification of Diseases) account for 44.50 per cent of the total number of episodes, where malaria alone has the share of 97.22 per cent in this group.

The prevalence rate of the next major group, infectious and parasitic diseases, is 28 per thousand population dysentery has the highest prevalence rate followed by polio, leprosy, diarrhoea and filariasis. Among these leprosy has emerged as a major health hazard in certain parts of the region. The dysentery plays havoc in the group having 32.14 per cent share to the total episodes under this category. The disease along with diarrhoea has no regional bias or boundary in the entire region, which reflects the water quality and conditions of sanitation and hygiene in the region. Polio also is still playing a notorious role. Despite the National Health Programme and Universal Immunisation Programme, the existence of polio in the villages with PHCs raises one’s eyebrow. The remote villages without PHCs have to fend for themselves as the vaccine hardly reaches there.

Diseases of digestive systems and intestinal disorders have prevalence rate of 17 per
thousand populations, which seems to be more prevalent among the children up to 4 years of age and population above 15 years of age. The tribal males of Jharkhand have reported more prevalence rate than the females. Their work outside home invariably exposes them to food and water consumption at workplace that may be one of the causes for this. The main disease, stomach ache, alone has the prevalence rate of 11, which is a widespread problem in entire Jharkhand. Stomach ache is next to malaria accounting for 66.67 per cent to the total episodes of diseases within this category (diseases of digestive systems). These diseases directly or indirectly contribute to the vicious cycle of cumulative effects of all other diseases because they first make people non-resistant, weak, and vulnerable to infections.

Respiratory diseases have reported prevalence rate of 11 per thousand populations where cough is a common ailment. Girl children and aged females are the main sufferers of cough. One of the causes for this apart from well-known negligence towards females is perhaps their long time association with cooking with firewood in the traditional ‘chulhas’. Impairments (both physical and mental) are of a major health concern. The older males are visually more impaired than the females. The skin disease, mainly fungal infection on nails that was found only in Dumka calls for a clinical test to arrive at the causes of this fast spreading disease. The diseases coming under the category of ‘other’ and ‘unclassifiable diseases’ have relatively high rate of prevalence with 33 and 19 per thousand respectively accounting for 10.08 and 5.74 per cent shares to total episodes of ailments respectively. In this group, bodyache has been found invariably in all the sample villages. Fever and headache have also emerged significantly. The group of ‘unclassifiable diseases’ plays a major role in the region as people do not even have a facility to know about the diseases hosted by them. Moreover, they do not even know that a simple symptom could be the beginning of a deadly end. This group comprises of unclassifiable fevers, cold, chest pain and some of the further unclassifiable ailments.

Regional Pattern, Age-Sex Differential And Seasonality of Morbidity

Gumla (relatively developed) District: Malaria is a major disease in Jharkhand but is relatively very high in Gumla district. It is the single dominant disease in the district with varying degrees across its sub-regions. The disease accounts for 30.97 per cent to the total episodes of diseases and 96.00 per cent of the category of diseases of viral infection. The diseases of viral infection have a very high rate of prevalence among the tribal population of this district (103 per thousand population) but much lower (almost about 100 per thousand population) than Dumka (Table 2 and Table 3). In this district the females are having higher rate than males. The parasitic diseases distantly follow the diseases of viral infections in terms of prevalence rates as the prevalence rate is 26 only. The main diseases are dysentery, leprosy and polio. The next most prevalent well-defined diseases are related to the respiratory systems, where cough and lung T.B have emerged as major ones. Cough is mainly found among the females while lung T.B. is associated with males only. Though leprosy and polio have meagre shares at district level but are of the major health concerns. A person with leprosy is not allowed to intermingle with the society. The person is socially boycotted and kept in leprosy colonies/hamlets away from the main settlement. The diseases of digestive systems and intestinal infection are prevalent all over the district due to the poor water quality, lack of hygiene and health awareness. Stomach ache is the major health problem among the tribal population, which has worse impact among the males of 60 years and above.

Visual impairment are mostly found among women of the old age-group. The visual impairments among all needs to be analysed in association with other factors, like food intake and nutrition. The hearing impairment, malnutrition and deficiency diseases, diseases of blood and blood forming organs, diseases of genitourinary system, are mainly found among the old age population only. The old age
populations are also main sufferers of diseases of immunity disorders, and diseases of muscular-skeletal systems. Diseases of skins are basically related to the female populations. Examples are also found for the paralysis has also been reported in this district as a result of wrong and untested herbal medicines given by a traditional healer for birth control to a lady.

The district may be put in a better position in terms of morbidity as, apart from senility, some of the diseases are related to old age populations. However, due to poverty, food and nutritional deficiency and problems related to proper health care from both ends (providers and receivers) morbidity among the ageing population is of a growing concern whose shares have been increasingly growing due to general population transition.

Dumka (Relatively Underdeveloped) District

Dumka has been found as the most underdeveloped district of Jharkhand region only next to Deoghar district in terms of educational, health, and transport infrastructures, safe drinking water facility and literacy. The episodes under malaria are extremely high in the district with 58.62 per cent of total cases falling in this category. The infectious and parasitic diseases have a share of 9.31 per cent. In this group diarrhoea, polio, and Filariasis have emerged as the major diseases. Here malaria alone accounts for nearly two-thirds of total episodes. Besides these two kinds of diseases, all other groups have the prevalence rates of less than 5. Accidents and external injuries, respiratory diseases, diseases of digestive systems and intestinal infections, ‘other’ and unclassifiable diseases have the shares of 3.45 per cent each. Other main diseases are cough, stomach ache, diseases related to pregnancy and childbirth, genito-urinary systems, fungal infections of nails, genetic deformity, unclassifiable fevers, diseases and aches. In Dumka the morbidity prevalence rate is high but the number of diseases is less than Gumla.
Total prevalence rate of diseases of viral infection is 197, where malaria alone has the prevalence rate of 194 per thousand population accounting for 99.42 per cent share in this group of diseases (Table 3). It is found across all the age-groups. But the higher rates are found among the children and the old populations. The next kind of prevalent diseases are of infectious and parasitic diseases found to be 31 per thousand population. It is found in all age-groups. In this category, diarrhoea, Filariasis and polio are most prevalent ones. Kala-Azar supposed to be fully controlled but still found in Dumka. Respiratory diseases and diseases of digestive systems and intestinal infections have the prevalence rates of 11 each. Among all these, cough and stomach ache are in considerable numbers. Impairments are also significant in the district, where locomotor impairment is the matter of concern because of their genesis.

The female related health problems needs to be focussed despite their less percentage under any disease and impairments. The disease prevalence rate among them is 16 per thousand population and 29 per thousand female populations under reproductive age-group. Diseases of genito-urinary system is found among the 6 per thousand population under the age-group of 15-59 years and 37 per thousand males of the age of 60 years and above, which is nine times higher than the previous groups. Prevalent skin diseases (fungal of nails and eczema) especially found in Dumka district have the rate of 8 per thousand population and found only among males. The diseases under the categories of ‘other’ and ‘other not classifiable’ have the rate of 21 per thousand population. These diseases need to be detected what exactly they are, such as unclassifiable fevers. All diseases under these categories are predominantly found among the children, where genetic deformity needs a greater examination.

Dumka, a relatively less developed district, has a higher disease prevalence rate, i.e. 334 per thousand population compared to Gumla, a relatively developed district in terms of rural social infrastructure,
with a Prevalence Rate of 318 per thousand population. There are significant variations among
the blocks, where developed blocks in both the districts have much less morbidity rates than the
underdeveloped ones. It is more conspicuous in case of Gumla district. The differences in the
prevalence rates among villages are wider than the block level variations ranging from 211 per
thousand population in Dhorhi village to 469 in Ranga village.

As revealed from Table 1 the overall average morbidity reflected in terms of prevalence rates (per
thousand population) is 325 for Jharkhand. The gender differential is not observed to be significant.
Between the two sample districts the difference is not large again though the prevalence rate is higher
for Dumka. Masalia block of Dumka has reported the highest prevalence rate. Among the villages,
MPR is observed to be of the order of 469 per thousand in Ranga village of Masalia block in the
Dumka district. It is closely followed by Muriya village located in the Gumla district (Simdega
Block). The variability across the villages was high whereby Dhorhi village of Gumla has reported
the lowest MPR followed by Phalan in the Dumka district.

This clearly indicates that morbidity pattern varies significantly within the two districts as each has
a village with a very high MPR sometimes recording twice the magnitude in relation to the one with
lowest MPR.

The figure (Fig. 1) gives an illustration of the spatial dimensions of morbidity prevalence in Jharkhand.
Though number of the diseases at different levels is not comparable (among villages, among blocks
or between districts) because of varying sample size, the pie diagram may be helpful in focussing
on the diseases which are most debilitating such as viral infection, parasitic infection, respiratory
diseases, diseases of digestive systems, etc. Among all, about half proportion goes to malaria alone.
It crosses even the 50.00 per cent share in all villages of Dumka district.

There is a clear pattern that the villages with PHC have recorded the higher MPR than the remote
villages. In terms of gender differential, there is again no definite pattern on the basis of the location
of the village with reference to PHC. It is noticed, however, that the villages of relatively advanced
block (Gopikandar) have reflected high MPR for females, than the villages of Masalia block.
Remarkably the gaps are also wide.

There are marked differences among the villages even within a district in terms of total morbidity
prevalence. There are also significant inter-village and inter-tribal variations of morbidity prevalence
among the various age-groups. Apart from common ailments, there are specific diseases in different
villages. All these kinds of morbidity prevalence reflect the varying physical, environmental and
socio-economic conditions of the village within a district. For instance in Kurdeg village, viral
infection and infectious and parasitic diseases play a notorious role with malaria and leprosy as the
major diseases. Leprosy is expected to spread as the symptoms were reported by some more persons.
There are some diseases with very large proportions, prominently fevers and pains, which could not
be classified due to their uncertain genesis. In Ranga, the health problems of females (diseases related
to pregnancy and childbirth), have come in the light in a very significant manner, which reflect all
associated factors including the absence of a lady doctor in the PHC and their proper care. In Phalan,
diseases of skin have prominently emerged in the village where fungal disease on nails (decay of
nails) is widespread with 5.08 per cent of total episodes. This disease is male specific in the village.
Diseases related to pregnancy and childbirth have emerged with significant rate of 33 per thousand
females of the reproductive age-group. A fungal disease related to the decay of nails is confined to
Santhal Parganas region of Jharkhand and is not found in Gumla.

Similarly the diseases can clearly be identified as age and sex-specific in nature. For example,
polio is found among the younger generation except malaria which is not age or sex specific. The
respiratory diseases are found among the younger people as well as the people of the age-group of 15-59 years unlike the people of Dumka district, where it is found among children and older population. Females are little more susceptible than males. The population at higher risk is from both the younger and the older generations with MPR of 364 and 667. However, in the younger generation (0-4), female children reflect a gross negligence than the male children. The disease prevalence rate among them is 200 and 615 per thousand male and female children respectively. In contrast, in the older generation females are at little advantageous position where they have the MPR of 500 compared to 786 among males. In the most affected age-groups of females, the major diseases to increase the prevalence rate among them are dysentery, typhoid, diarrhoea, malaria, body ache, fever and headache, waist pain and other kinds of pains in different parts of the body. These are attributed to heavy workload and the poor living conditions. In the old age-group, females are affected by anaemia, skin diseases, injuries and diseases of senility. Therefore, even in the tribal society, females are the subject of negligence/deprivation indirectly, due to changing life-style and socio-economic spheres, and burden of different responsibilities. Old populations are most affected in all communities.

There is seasonality also in the diseases like Malaria occurs in winter in Dhorhi whereas it prevails in summer in Kurdeg. Similarly, Masalia is reported to have been attacked by various diseases severely in post rainy season (October to February). It is also supported by some other major studies where marked difference in reporting has been found. For example Sen (1998)\textsuperscript{13} reflects that Kerala has the highest morbidity reports whereas NCAER (1999)\textsuperscript{14} reports that Kerala is among the states with low morbidity prevalence rates.

The other observation is that the village Bara Barpani is situated in an advantageous position among all other sample villages in terms of amenities and economic opportunities. Yet the village has registered high MPR. The village is severely affected by malaria. This rate has gone up to such extent due to the cumulative episodes of the diseases of viral infection, respiratory diseases, genito-urinary systems and muscular-skeletal systems and among the females of this age-group. Therefore, females have been affected with a burden of several kinds of diseases, which increases in cumulative aggravation day-by-day.

**Other Measures Of Morbidity**

**Proportion of Ailing Population (PAP)**

Total PAP in Jharkhand is 285 meaning thereby 28.5 per cent population are under any ailment. Dumka district’s 29.37 per cent population is identified as ailing (PAP-293 per thousand population). However, the positive side of the districts’ health condition is that its less pronounced among females’ population (26.34 per cent) than males (32.29 per cent). In Gumla opposite is true as the PAP is lower than Dumka but is higher among females. However there are extreme cases like Dhorhi village reports only 174 per thousand ailing population, which is lowest among all the sample villages despite its remoteness, inaccessibility and poverty. Also the population of Ranga village is at a very high risk because of the highest proportion of its population recorded as ailing (400 per thousand population). It is a matter of concern for any society and the government because the village is only 2 kilometres away from the PHC.

**Morbidity Prevalence Rates (MPR)**

The average MPR in Jharkhand is found to be 325. The villages of Gumla district have wide differences in MPR among male and female population, where Kurdeg, Bara Barpani and Muriya villages have higher MPR among females. This gap goes up to 101 per thousand in Muriya. The same magnitude
of gap (102) is found in Dhorhi village, where MPR for male and female are 261 and 159 respectively. In the childhood (0-14), only Muriya village has shown low prevalence rates among the female population. In the age-group 15-59, this pattern changes as the opposite situation emerges, i.e. in all villages the MPR among females comes lower than males whereas it reverses in Muriya with a wide gap. The MPR for females enormously differs (by 153 per thousand) in this age-group in Dhorhi than males. Among the older population, the MPR is found to be very high in all the villages with a huge gender gap, where females are more affected in Bara Barpani and Muriya villages. Among all villages, females are found to be in better position in Dhorhi village after the childhood.

The disease prevalence rate in Dumka district is 365, 303 and 334 per thousand for male, female and total populations respectively, which is higher than Gumla district. However, the remarkable point in the district is its less disease prevalence rate among the females than the males, which is even less than Gumla district. But here, as discussed above, under reporting may be a factor due to low self-perceptive reporting owing to health awareness. Another situation can be articulated as the traditional societies have non-discrimination against females, which leads to better health. For example, the low prevalence of diseases in Bihar does not mean healthy situation than that of Kerala where the prevalence is much higher than Bihar. Dumka has significantly low MPR in the remote villages. But there are villages with very high MPR like Ranga, which has tremendous external interventions also.

### Disease Attack Rate

*Table 4*

<table>
<thead>
<tr>
<th>Village/Block</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dumka District</td>
<td>270</td>
<td>285</td>
<td>277</td>
</tr>
<tr>
<td>Kurdeg</td>
<td>264</td>
<td>274</td>
<td>269</td>
</tr>
<tr>
<td>Dhorhi</td>
<td>216</td>
<td>131</td>
<td>174</td>
</tr>
<tr>
<td>Bara Barpani</td>
<td>256</td>
<td>287</td>
<td>270</td>
</tr>
<tr>
<td>Muriya</td>
<td>351</td>
<td>443</td>
<td>397</td>
</tr>
<tr>
<td>Garihapani</td>
<td>323</td>
<td>263</td>
<td>254</td>
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<tr>
<td>Musna</td>
<td>250</td>
<td>301</td>
<td>274</td>
</tr>
<tr>
<td>Ranga</td>
<td>476</td>
<td>326</td>
<td>400</td>
</tr>
<tr>
<td>Phalan</td>
<td>295</td>
<td>188</td>
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<td>Simdega Block</td>
<td>295</td>
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<td>Gopinda Block</td>
<td>242</td>
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<td>258</td>
</tr>
<tr>
<td>Masalia Block</td>
<td>387</td>
<td>254</td>
<td>322</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>293</td>
<td>275</td>
<td>285</td>
</tr>
</tbody>
</table>

Morbidity Prevalence Rate and PAP where it is just opposite (Table-6). It means that the person under any illness is more prone to other multiple diseases in Gumla than in Dumka as this rate is 116 and 112 in Gumla and Dumka districts respectively. Kurdeg block has the highest attack rate but has the lowest PAP or Morbidity prevalence rate. It indicates that there are households/persons with very high level of multiple deprivation paving way to multiple attack of disease(s). It also indicates that a particular group is more vulnerable to diseases. The other study units also show this kind of characteristics for further investigation as to what leads to multiple attack apart from the pathological reasons like inability for treatment, inaccessibility of health care centres or no preference of modern sources of treatment.

**Type And Nature Of Disease Prevalence With Location And Availability Of PHC**

As seen above Dumka district has the higher prevalence rate than Gumla. However, if the characteristics of villages are considered then there are differences within and between both the districts. The Gumla has higher prevalence rates than Dumka in the remote villages without PHC. Though the low morbidity reporting in Dumka district may be because of two factors; one, these remote villages really are better off due to less external intervention, and second, the capacity of morbidity perception and reporting may be low due to remoteness and poor external exposure and perceptive capability.

The morbidity pattern in the sample area presents an important complexion of association between reported morbidity and development. As it is well known that the method of lay diagnosis reporting (LDR) can successfully work when two necessary conditions are fulfilled. Firstly, that the respondent perceives the fact that he/she is unwell and is also in a position to locate, though broadly, the nature of ailment/symptoms. Secondly, that the communication between the interviewer and the respondent is reasonably good. Having said this one may also observe that there would be significant variation across communities and groups of population in terms of their perception and definition of ailment that one may call as culturally determined.
Studies have also shown that morbidity tends to be higher in developed conditions. In other words, social and economic process of development brings better awareness and health care facilities that helps the process of perceiving one’s health. Economically better off persons are likely to utilise health care services more often than others, and therefore, are likely to have higher morbidity rates. In India the case of Kerala is an interesting example of this process.

One may agree that the illiterate and the marginalized tribes may reveal relatively poor levels of illness perception, which may also be conditioned by cultural factors. It is generally said that in the pre-literate traditional societies, physical and mental infirmities are generally associated with spells of magic or wrath of the supernatural and supreme powers. Hence, disease as medically constructed and that which is culturally constructed may be at same variance. In the course of transition, when a pre literate society of tribal denomination comes in contact or is exposed to the forces of modernisation, the distinction between disease and magic/ supernatural forces tends to set in. Hence, the perception of ailment on account of disease is likely to be perceived from the vantage point of two-fold distinction mentioned above.

In the sample area, one observes that the difference in morbidity (MPR) between the villages with and without PHC was significant though not very large where the PHC villages have reported higher MPR than villages without PHC (Table 7). The gap between villages with and without PHC in Dumka was very large while it was not so in Gumla. What emerges here is that Gumla, a relatively developed district, has a prominent record of higher prevalence rate in a village, which is without PHC. The pattern observed above, therefore, fails to help understand the causes of this variation. One would have expected that PHC villages report higher MPR than village without PHCs. At the aggregate Jharkhand level, this observation is not consistent with the above pattern. It means, that there are local conditions that underline the observed variation. One may also hypothesise that far-flung areas in the tribal pockets that are still untouched by outside influences and would tend to have poor prevalence rates. The observation in the field made in the
two Dumka villages that were without PHCs such as Musna and Phalan reported lower morbidity rates. To what extent it is a function of ignorance, self perception or disturbance in the primordial tribal life style needs to be further examined with reference to a much larger sample and in depth analysis focused on this theme.

**Development Indicators And Morbidity**

The MPR is found to be higher in the villages with PHC as has already been examined with exceptions at micro level. In these villages, the prevalence rate is more among females than males. However, the prevalence rates for females are significantly less among the females of remote villages. It is also found that with literacy the MPR is found more among the illiterate tribes of Jharkhand (Table 8). The main point here is it is significantly lower among the literate female than the literate males opposite to the situations among the illiterate males and females. Among illiterate populations, females have the higher morbidity prevalence rates.

The highest morbidity prevalence rate is found among the non-agricultural workers (518 per thousand population). Surprisingly it is also very high among the service holders (375 per thousand population) followed by agricultural workers and non-workers. The lowest prevalence rate is found among the wage labourers (207 per thousand population) with a vast gap with the highest prevalence rate for non-agricultural activities. The higher prevalence rates among females are found among the non-workers and non-agricultural workers. Among the service holders, the prevalence rate among females is comparatively very low (male- 422; female- 263 per thousand population). It is also lower among the females engaged with agricultural activities and wage labour. Hence, the comparatively lower prevalence rates are observed among either the non-workers or the wage-labourers.

The morbidity prevalence is relatively low among those, who belong to the head of the households engaged in agricultural activities (295 per thousand population) and the prevalence rates are high with those who belong to the head of the households engaged in wage labour (421 per thousand population) and non-workers (441 per thousand population).

Child morbidity has also been examined with the occupation of mothers and it is found that the lowest morbidity prevalence rate is found among those children whose mothers are non-workers. The prevalence rate is also low among the children of mothers engaged in agricultural and allied activities. Agricultural and allied activities have much flexibility for female workers to take care of their children because most of them work in their fields only. Very high prevalence rates are experienced by the children of those mothers who are engaged in non-agricultural activities (455 per thousand population) and wage labour (438 per thousand population) where they do not have time to take care of their children during working hour. The higher prevalence rate is also found among the children whose mothers are engaged with services or non-agricultural activities. Similarly, it is significantly lower with the female children of the mothers engaged in non-agricultural activities.

There is not very clear picture of relationship of morbidity with land holding. But there is a tendency of decreasing morbidity towards larger land holding size and the large land holding size is found towards the relatively less developed areas or villages. Similarly there is no definite pattern of relationship of morbidity with per capita income in Jharkhand. The other factors are more dominant in the region. The morbidity seems to prevail marginally more among those who have availability of access to food for both the meals a day. In both the conditions, the prevalence rate among females is lower than the prevalence rate among males.
Conclusion And Suggestions

The association of morbidity does not have a particular direction with development indicators maybe it is more region/location specific associated with several other factors. From the above analysis it is found that the MPR among the tribal people in Jharkhand was much higher than the NSS results for the Scheduled Tribes of rural undivided Bihar. The district level data given by the Census of India for 1991 reflects that morbidity is a major determinant of health status as the table below shows that the district with low IMR has high MPR indicating the retardation of people efficiency by arresting their normal functional capacity. The mismatch of IMR and morbidity among the sample districts, where there should have been negative relations between these two indicators, shows the importance of morbidity in examining the overall health status and levels of development. Also there are some strange results like Gumla district has higher IMR but lower MPR than Dumka district. There is a large difference in morbidity among the villages of Gumla district, where the highest and lowest MPR is found in remote villages-Muriya and Dhorhi- only. In Dumka the villages with PHC reported higher MPR than villages without PHC. The remote villages have shown lower level of MPR with one exception-Muriya. The tribal females have MPR less than males in Jharkhand. Disease prevalence was less pronounced among the females of Dumka district unlike Gumla. The villages of Gumla district had wide differences in MPR among male and female population, where Kurdeg, Bara Barpani and Muriya villages had higher MPR among females. Malaria is widespread. It has slightly below half of the proportions of total diseases. Other common diseases found everywhere are dysentery and diarrhoea.

There are some specific diseases, which are found in specific areas. For example, leprosy is found in Kurdeg village of Gumla district and fungal, filariasis and genetic deformity are particularly found in the villages of Dumka.
district only.
The per capita income does not show any definite pattern. In the two districts of Jharkhand, where
two distinct cultures also exist at micro level, there is some difference in disease occurrence. There
are physical, environmental, economic, political, administrative and social factors involved in the
evolution of the occurrence and perception of diseases, awareness, health and health care. The
physical factors may have contributed for the difference in malaria and Kala-Azar in the two regions.
The difference in diseases related to digestive systems and intestinal infection and respiratory
diseases, skin diseases (fungus in nails) and filaria are contributed by the environmental factors such
as water quality and surroundings and amenities inside the house. The occurrence of diseases related
to malnutrition, impairments and muscular skeletal systems may be characterized by economic
factors. The diseases like genetic deformation are differentiated by the social factors such as early
marriage and pregnancy below age of 18 years. And finally, the overall health situation is attributed
to the varying political and administrative factors, which hardly pay its attention to eradicate and
minimize the prevalence rates of diseases, enhancement of nutritional status, provision of health
care facility, etc.

The overall analysis reveals that the communities of Gumla district are healthier than the
communities of Dumka. Wherever human intervention has taken place in one-way interaction,
their situations have become grimmer. In contrast, the remote areas are healthy in some respect like
environmental health and food intake. Nonetheless, these are deprived of positive sides of human
interventions like all kinds of infrastructure, facilities and overall balanced developments.

There is a need of further examination about the higher prevalence of diseases in the villages with
PHC to find out that whether the remote villages under report morbidity due to various reasons or
the villages with PHC are really worse off in terms of morbidity prevalence.

There are well defined seasonality of disease occurrence, for which preventive and promotive
measures can be taken well ahead. Similarly the preparation to mitigate the challenges during the
seasonal occurrence in particular regions makes planning easy to combat those epidemic situations.

Looking at the size and dimension, the prime concern is the elimination of malaria and
provision and maintenance of safe drinking water supply to every household so that prevalent
diseases related to digestive systems and intestinal disorders can be eliminated and if
these two are eliminated, a significant decline in disease prevalence can be achieved.

The diseases classified in ‘other’ categories cannot be neglected as their prevalence rate is also
significant and is primarily associated with older populations where main health problems are of
body ache, fever and headache and heat stroke. The unclassifiable diseases, in contrast, are found
among the children, especially the unclassifiable fevers and ailments. So, there should be some
mechanism to enhance their awareness to go for the diagnosis and treatment and also there should

<table>
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<tr>
<th>Districts</th>
<th>IMR</th>
<th>U-5MR</th>
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<tbody>
<tr>
<td>Gumla</td>
<td>90</td>
<td>98</td>
</tr>
<tr>
<td>Ranchi</td>
<td>50</td>
<td>48</td>
</tr>
<tr>
<td>East Singhbhum</td>
<td>58</td>
<td>61</td>
</tr>
<tr>
<td>West Singhbhum</td>
<td>68</td>
<td>68</td>
</tr>
</tbody>
</table>

be proper visits and services by the government health personnel to detect, treat or to refer and help in minimizing these unclassifiable diseases. Almost one-fourth of the total episodes of diseases are comprised of the diseases categorised in ‘other’ and ‘other unclassifiable’. People generally neglect the treatment of these ailments due to unavailability and improper facilities.

The perception of morbidity increases with development and thus reporting may also increase. However, the studies reveal that there is a positive relation of development and health status especially in the society of low level of development.\textsuperscript{16} Therefore, development is a must to create the affordability for (the factors of) improvement and maintenance of good health status.

References/Notes

\textsuperscript{3} Shariff, A. (1999): India: Human Development Report, A Profile of Indian States in the 1990s, New Delhi: NCAER, UN and OXFORD.
\textsuperscript{4} Park and Park
\textsuperscript{10} As significant proportion of couples in Dumka district were found to have changed their spouses more than once (47 out of 50 households in Ranga village were found to be such examples). In this case, women and children become the worst sufferers.
\textsuperscript{14} Shariff, A. (1999): India: Human Development Report, A Profile of Indian States in the 1990s, New Delhi-NCAER, UN and OXFORD.