

# Basic Amenities, Health and Nutrition in the BIMARU Economies of Bihar and Madhya Pradesh

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## Abstract

**Objective-**This study is an endeavor to get a relative insight into the basic amenities, health and nutrition status between the two BIMARU economies of Madhya Pradesh and Bihar.

**Methods-**This research study is based on the analysis of data taken from the fourth National Family Health Survey (2015-16).

**Findings-**Most alarming features of Bihar and Madhya Pradesh are high infant and child mortality rates and malnutrition among children. Sex ratio for both the states is above national average which is a good sign for women empowerment. Except for access to improved drinking water source, other basic amenities electricity and improved sanitation facilities present a grim picture for both the states. Fertility rates in both the states are moving closer to the population stabilizing to total fertility rate of 2.1. At the time when medical inflation in India is as high as 15% , minuscule percentage of household with any health insurance or health scheme clearly indicates a tremendous financial burden on the population on account of out of pocket expenditure on health. Gender disparity has been found in the HIV/AIDS awareness among adults which puts women at higher risk of infection.

**Applications-** Findings of this research study may be utilized to identify the solutions to the basic amenities, health and nutrition problems in Bihar and Madhya Pradesh.

**Key words:** Bihar, BIMARU, Health, Basic amenities, Madhya Pradesh, Nutrition.

## 1. Introduction

The word "BIMAR" means sick in Hindi. BIMARU which was coined by Ashish Bose in mid 1980s has resemblance to the word BIMAR and thus it was and is still used to represent the four poor states of north India-Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. In a speech in the year 2015 Prime Minister Mr.Narendra Modi gave an impetus to the ongoing debate of shedding the tag of BIMARU to few of these states by saying Madhya Pradesh is no longer a BIMARU state along with Rajasthan and Uttar Pradesh but Bihar keeps on anguish this destiny. More recently in an article published in Economic and Political weekly (EPW) in May 2015 economist Vinita Sharma found that while these states had made individual progress on the whole BIMARU states had not converged with the national average and none of the states had been able to move out of the grouping though Rajasthan, Madhya Pradesh, and Uttar Pradesh showed a greater degree of improvement than Bihar. In the year 2013, "The Committee for Evolving a Composite Development Index for States" headed by Mr. Raghuram Rajan was setup. This committee designed a multidimensional index of backwardness which was an average of the following ten sub-components: poverty rate, female literacy, percent of Scheduled Castes and Scheduled Tribes population, urbanization rate, monthly per-capita consumption expenditure, education, health (infant mortality rate), basic amenities (drinking water, sanitation, etc), financial inclusion (proportion of households with banking facility), and connectivity (highways, roads, etc.). Bihar and Madhya Pradesh were considered as the least developed states of India by this committee also based on the multidimensional index of backwardness.

For human development, access to basic amenities such as drinking water, electricity, cooking fuel, sanitation etc. are not only essential but they are also closely linked to the health conditions of the individual, family, households, community and nation. Out of eight Millennium Development Goals, goal number six aims at combating HIV/AIDS besides other diseases and goal number seven aims at improving access to safe drinking water, basic

sanitation facilities by the year 2015. Several research investigations reveal, India is advancing towards these objectives however regional variations are recognizable.

A few studies also reveal that all the BIMARU states perform poorly in providing basic human needs such as latrine facility, electricity, safe drinking water etc. to their inhabitants. This is the time when India is moving to enter the next phase of demographic transition due to the declining fertility and mortality rates all over the country but two of the BIMARU economies of Bihar and Madhya Pradesh are still condemned for their high infant and child mortality rates, high fertility rates and malnutrition among children. Given this backdrop this paper attempts to comparatively study the basic amenities, health and nutrition related issues between the two BIMARU economies of Bihar and Madhya Pradesh.

## 2. Research Objectives

This research study attempts to get a relative insight into the basic amenities, health and nutrition condition in the BIMARU Indian states of Bihar and Madhya Pradesh. For this purpose household profile, sex ratios, infant and child mortality rates, child feeding practices, nutritional status of children and adults and the knowledge of HIV/AIDS among the age group of 15-49 years are examined.

## 3. Research methodology

Study area- Bihar and Madhya Pradesh

Data used- Secondary data.

Sources of data- National Family Health Survey (NFHS)-4, Census of India 2011

## 4. Discussion and Results

### Household Profile

For comparing the basic amenities in Bihar and Madhya Pradesh; data related with household profile have been used which include-data on households with electricity, improved drinking water source, sanitation, cooking fuel, use of iodized salt and households with any usual member covered by any health scheme or health insurance have been analyzed across the two states. Electricity, drinking water source and sanitation represent the basic amenities; drinking water and sanitation have important and direct bearing on community health also. Cooking fuel and iodized salt are directly related to health issues.

### Electricity

Some studies reveal that out of 1.3 billion people in the world who have no access to power, a quarter 300 million lives in rural India in states such as Bihar. With the current Indian government aiming at providing electricity to all by 2022 it seems a herculean task due to the states like Bihar where only 58.6% of households have electricity. But unlike Bihar Madhya Pradesh (89.9% of households have electricity) which is also a least developed state has relatively higher proportion of households with electricity.

### Drinking water source

In India 1 million children die due to preventable water borne diseases. Question and Answer archives of WHO cites "Safe water supplies, hygienic sanitation and good water management are fundamental to global health and almost one tenth of the global disease burden could be prevented by increasing access to safe drinking water, improving sanitation and hygiene; and improving water management to reduce risks of water-borne infectious diseases." According to the Millennium Development Goals Report 2015, Ninety percent of the world population is using an improved drinking water source, contrasted with seventy six percent in 1990. In light of this, the progress that Bihar (98.2% households using improved water source) has achieved is good and Madhya Pradesh (84.7% households using improve drinking water source) is not lagging far behind.

**Sanitation**

Worldwide, 2.1 billion individuals have accessed improved sanitation and the proportion of people practicing open defecation has fallen almost by half since 1990 but in Bihar and Madhya Pradesh where 25.2 % & 33.7% households have improved sanitation facility respectively, the situation is alarming.

**Cooking Fuel**

As per the United Nation Industrial Development Organization report title “Sustainable Energy For All”, India, China and Bangladesh are homes of more than half of the global population lacking clean cooking facilities with India sitting at the top of the list. It has the largest population lacking access to clean fuel for cooking. More than two third of India’s one billion strong population fully or partially rely on traditional biomass for cooking. In India responsibility of cooking lies on women and when clean fuel for cooking is not available women as well as children face health hazards. Though Madhya Pradesh (29.6%) has relatively higher percentage of households using clean fuel for cooking than Bihar (17.8%), needless to say that this percentage is very less and a big majority in both the states is exposed to harmful pollutants due to the use of biomass or other type of non-clean fuel for cooking.

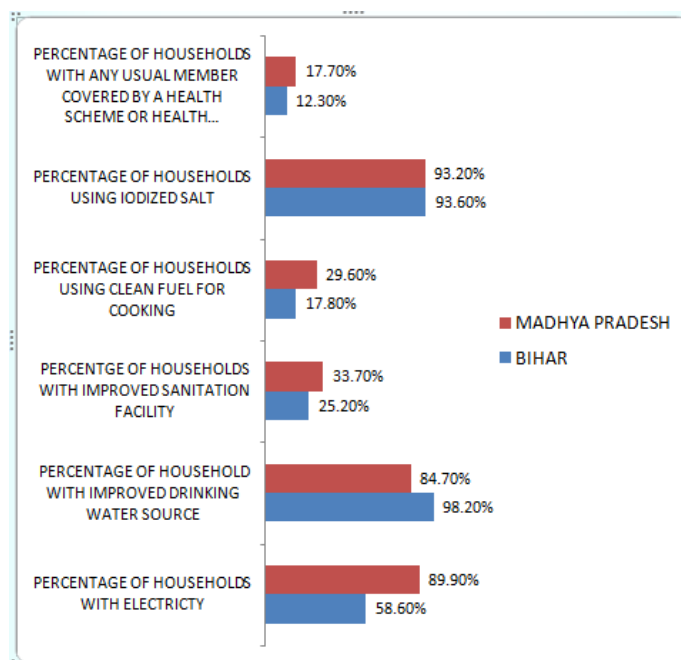
**Iodized Salt**

Deficiency of iodine is the key reason for potentially avertable mental retardation in childhood. Its deficiency also results in causing goiter and hypothyroidism in people of all ages. It is still common in large parts of the world. India is not an exception, as per the Coverage Evaluation Survey 2009, in India 91 per cent of households have access to iodized salt, of which 71 per cent consume adequately iodized salt. Non iodized salt cannot be sold in India due to a ban on its sale throughout the country but still poor people in India consume non iodized salt because it is cheaper than the iodized salt. The percentage of households using iodized salt in the Bihar (93.6%) and Madhya Pradesh (93.2%) reveals that a small percentage of households are still consuming non iodized salt and thus the efforts are needed to cover this small percentage of households for the use of iodized salt.

**Penetration of Health Scheme/Health Insurance**

Financial burden, owing to healthcare cost, is continuing as an important issue all over the world. This is true for India whose 69% of health spending is financed by out of pocket expenses. According to the National Health Profile 2015, compiled by Central Bureau of Health Intelligence, India only around 216 million people are covered under health insurance which is less than one fifth of the entire population. When compared with the national average, the situation in Bihar and Madhya Pradesh is alarming where only 12.3% and 17.7% of households with any usual member covered by a health scheme or health insurance are found respectively.

Figure 1. Household profile

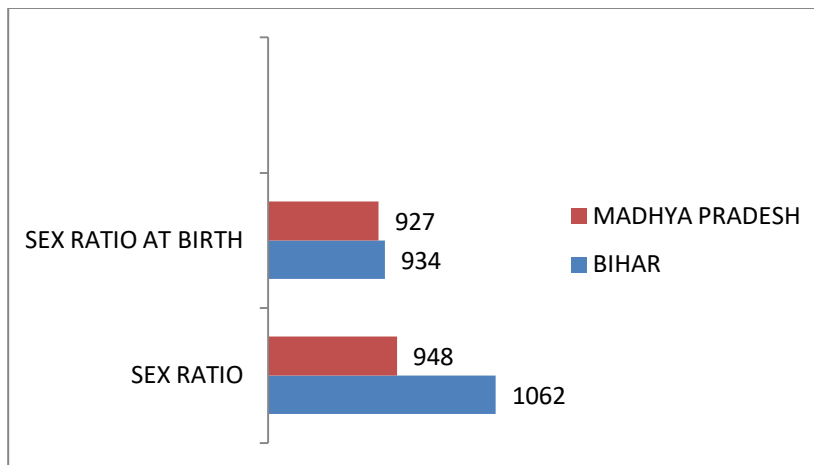


**Sex Composition**

Sex ratio is the ratio of females per one thousand males. Lower value of sex ratio is a major indicator of women disempowerment and the studies reveal that the problem of low sex ratio is acute in more developed northern states of India instead of less developed states. According to the latest available figures sex ratio of India is 943, so both the states of Bihar and Madhya Pradesh with the sex ratios of 1062 and 948 respectively are above the national average. In case of sex ratio at birth though its values are not very less in both the states there is still a big scope to increase them and bring them as closer to 1000 as possible.

According to the latest sample registration survey the sex ratio of children 0-4 age group is 909 in India. Here also both the states are above the national average.

Figure 2. Sex composition

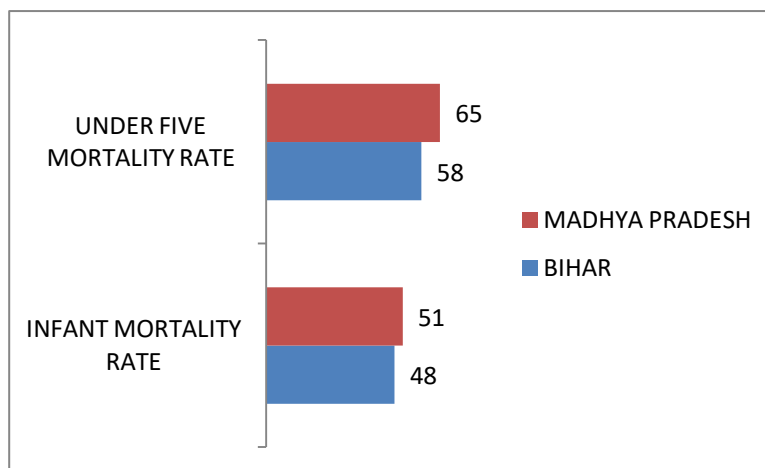


**Infant Mortality Rate and Child Mortality Rate**

According to the latest round of Sample Registration Survey infant mortality rate in India is 39 and thus it has achieved the Millennium Development Goal of reducing the infant death by two-third between 1990 and 2015 but the infant mortality rates of Bihar (48) and Madhya Pradesh (51) are appalling and above the national average. Infant mortality rate of Madhya Pradesh is also the highest among all Indian states.

The recent estimates Developed by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA Population Division) reveals under five mortality rate of India to be 48. Bihar and Madhya Pradesh have alarming under five mortality rates of 58 and 65 respectively. Millennium Development Goals (MDG) aimed at minimizing under five mortality to 39 per 1000 live births by the year 2015. Bihar and Madhya Pradesh are far away from this target. These statistics prove that Madhya Pradesh and Bihar are the most horrible states of India to be born in.

Figure 3. Infant and child mortality rate

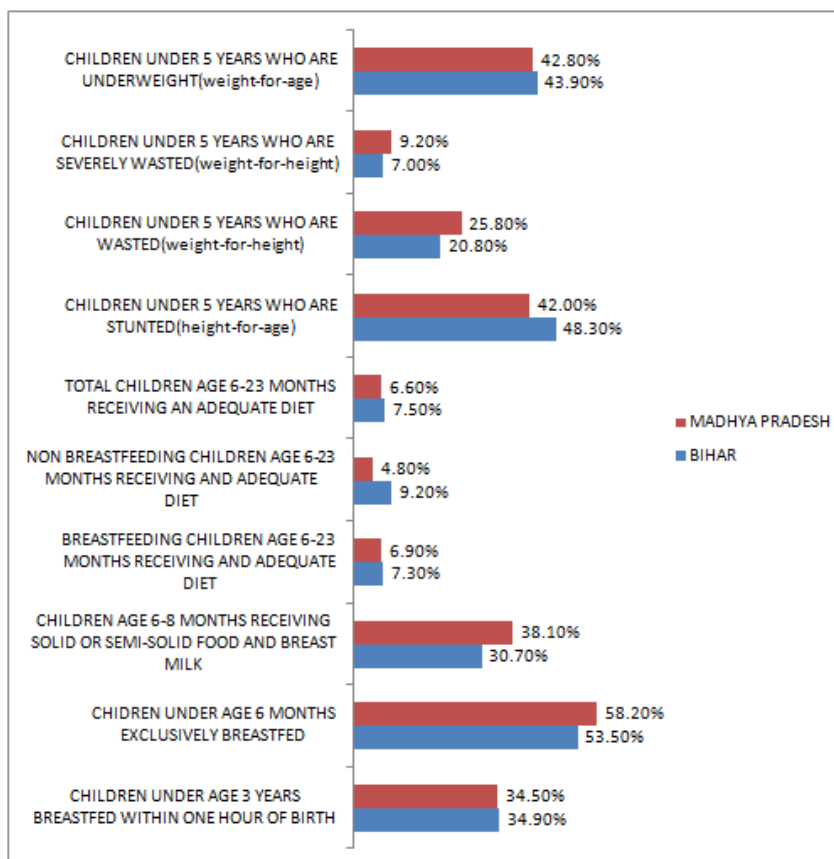


### Child Feeding Practices and Nutritional Status of Children

According to the medical dictionary “malnutrition is the condition that develops when the body does not get the right amount of the vitamins, minerals, and other nutrients it needs to maintain healthy tissues and organ function”. Infants, young children, and teenagers need additional nutrients.

Successive rounds of NFHS surveys bring to the fore widespread under nutrition among Indian Children; NFHS-4 is also not an exception as it also highlights the same. According to several studies the most serious health problem in India is malnutrition and Madhya Pradesh is the state severely affected by it with the highest percentage of malnourished children. It has been proved by medical science that the first one thousand days of a child's life, when growth is happening more speedily than it ever will, is the most detrimental time for them to be malnourished. Under nutrition during this time period of their life can bound their potential forever. Breast feeding is the best feeding for an infant but unfortunately a very less percentage of infants in Madhya Pradesh (58.2%) and Bihar (53.5%) are exclusively breastfed for six months. Furthermore, only 38.10% in Madhya Pradesh and 30.7% of infants in Bihar have appropriately been started on complementary feeding between 6 to 8 months of age and in both the states an extremely small percentage of children age 6-23 months regardless of breastfeeding is receiving an adequate diet. According to UNICEF statistics 33% of stunted children of the world live in India and 48% of children less than five years of age are stunted in India. The NFHS-4 data for fifteen states reveal that 37 per cent of children under the age of five in these states are stunted and Madhya Pradesh and Bihar are worst off with 42% and 48.3% of children less than five years of age stunted. Data for underweight children reveals that overall 34 percent of children are underweight in these fifteen states and again Madhya Pradesh and Bihar are worst off with 42.8% and 43.9% of underweight children respectively. Percentage of wasted and severely wasted children under five years of age in these two states is relatively less when compared with the underweight and stunted percentage.

Figure 4. Child feeding practices and nutritional status of children



**Nutritional Status of Adults**

Adequate nutrition, an essential foundation of any individual's health, is particularly critical for women because poor and inadequate nutrition not only adversely affects women's own health but it also affects health of their children and health of their future generations.

High regional and gender disparities are not found in the nutritional status of adults .Body mass index (BMI) is one of the important tool which is also quick to determine an individual’s health. It takes into account the amount of tissue mass which includes muscle, fat, and bone in an individual, and then categorizes that person as underweight, normal weight, overweight, or obese, based on the BMI value. Following are the frequently accepted BMI ranges-

Underweight: under 18.5 kg/m<sup>2</sup>,

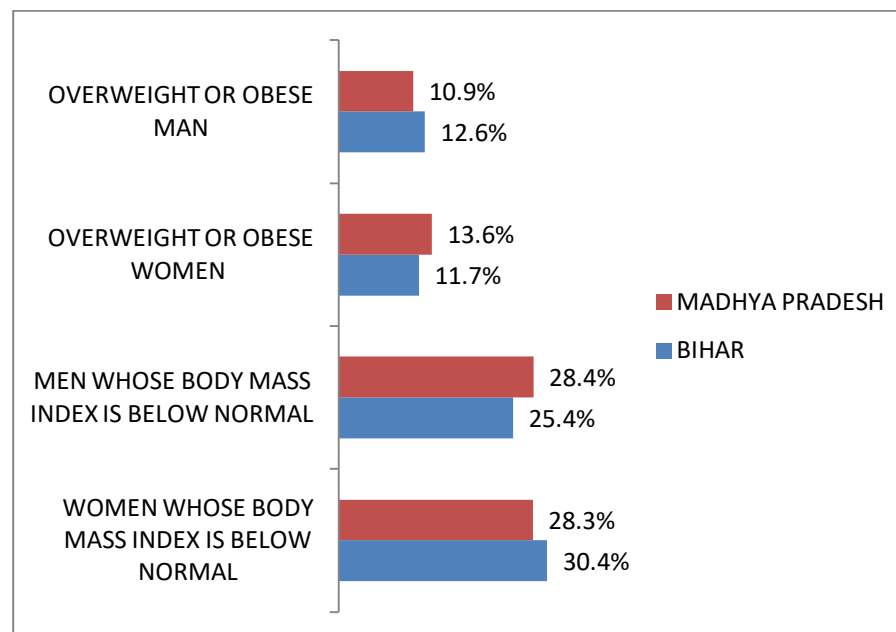
Normal weight: 18.5 to 25,

Overweight: 25 to 30

Obese: over 30.

Percentage of overweight or obese men is higher in Bihar (12.6%) than in Madhya Pradesh (10.9%) but the percentage of obese women is less in Bihar (11.7%) than in Madhya Pradesh (13.6%).Percentage of men whose body mass index is below normal is more in Madhya Pradesh but less in Bihar.

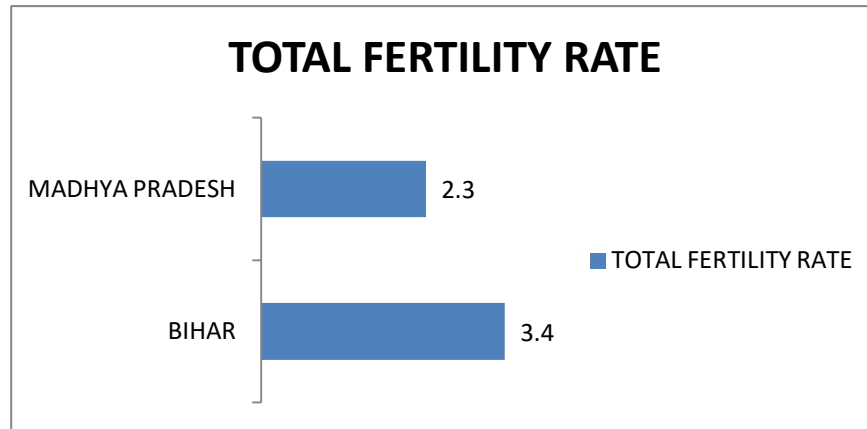
Figure 5. Nutritional status of adults (age 15-49 years)



**Total Fertility Rate**

Average number of children expected to take birth per women if she completes her entire span of reproductive period is termed as Total fertility rate. There is no disagreement among the demographers that if the total fertility rate is 2.1 the population gets stabilized. Total Fertility Rate of India is 2.4 which demonstrate the potential for entering into the next phase of Demographic Transition. With the fertility rate of 3.4, Bihar is among one of the states which are responsible for pulling the country back in achieving the population stabilizing total fertility rate of 2.1.Madhya Pradesh with the TFR of 2.3 is moving towards the 2.1 TFR goal and it looks achievable by 2020.

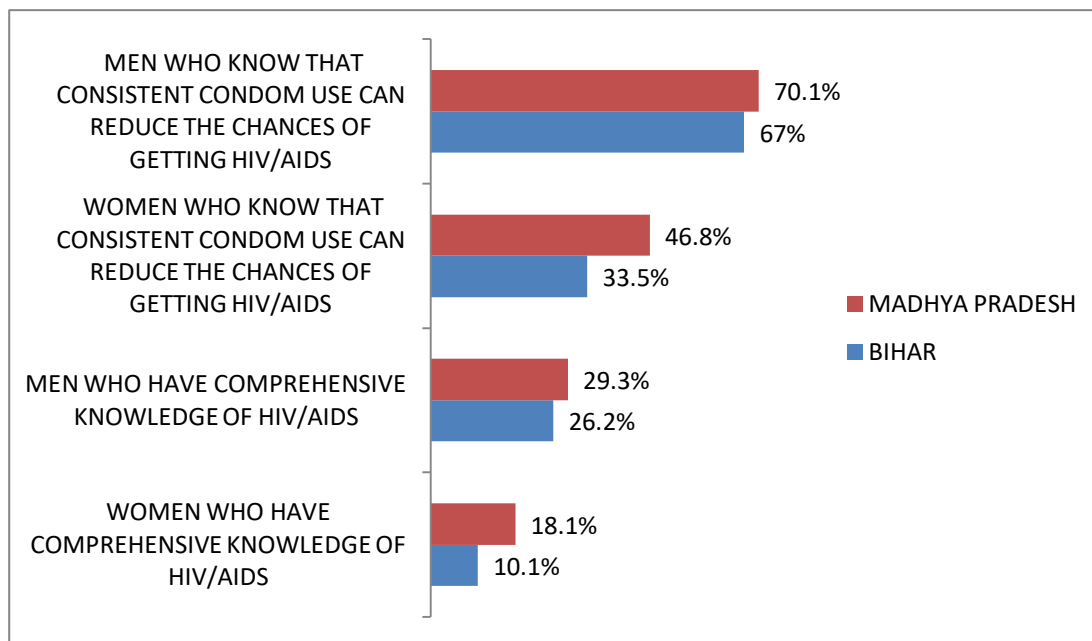
Figure 6. Total fertility rate



**Knowledge of HIV/Aids among Adults**

The deadly Acquired Immune Deficiency Syndrome (AIDS) pandemic is a standout amongst the most difficult health & wellbeing issues on the planet. According to some studies there are regional disparities in HIV prevalence in India. States of Nagaland, Mizoram, Manipur, Andhra Pradesh and Karnataka with the highest prevalence of HIV proves that the southern and eastern states of India have relatively higher HIV prevalence than northern states. Since there is no cure or immunization to prevent HIV, the only possible way individuals can keep the infection from the deadly AIDS virus at bay is to stay away from high-risk behaviors and have sufficient knowledge of HIV/AIDS. Gender disparities as well as regional disparities are found with regard to the knowledge of HIV/AIDS in the states of Bihar and Madhya Pradesh. Percentage of men who know that consistent condom can reduce the chances of getting HIV/AIDS and the percentage of men who have comprehensive knowledge of HIV/AIDS are more than the percentage of such women which make women more vulnerable to HIV/AIDS.

Figure 7. Knowledge of HIV/AIDS among adults (age 15-49 years)



**5. Conclusion**

This paper has presented a detailed comparative analysis of basic amenities, health and nutrition between the BIMARU economies of Bihar and Madhya Pradesh. Bihar and Madhya Pradesh are criticized for their high infant and child mortality rates and malnutrition among children. Millennium Development Goals era is already completed in the year 2015 and now the new outline of Sustainable Development Goals targets to end preventable deaths of

newborns and children under 5 years of age. The aim is to minimize under-five mortality rate to 25 per 1000 live births by 2030 which looks a difficult task for both the states of Bihar and Madhya Pradesh. The comparison of basic amenities too does not present a good picture of both the states. However, the percentage of households with electricity in Madhya Pradesh is relatively very high than the percentage of households with electricity in Bihar. Another good point to note about Madhya Pradesh is that it is among the six states which are anticipated to have power surplus in 2016-17. Bihar on the other hand has made astounding accomplishment in increasing the percentage of households with improved drinking water source. A satisfactory thing about both the states is their sex ratios which are above the national average. Fertility rates are indicating the movement to next phase of demographic transition in the times to come especially in Madhya Pradesh which is very close to the population stabilization fertility rate of 2.1. Gender disparity has been found in the knowledge of HIV/AIDS among adults putting women at higher risk of infection. In case of health there is a big scope of improvement which can be done through high government spending on healthcare and high penetration of health schemes/insurances. Overall it is early to conclude that Madhya Pradesh is far ahead from Bihar as far as basic amenities, health and nutrition are concerned.

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