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Measuring the Multi Dimensional Knowledge Deprivation of HIV/AIDS: A New Approach with Indian Evidence on its Magnitude and Determinants

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Measuring the Multi Dimensional Knowledge Deprivation of HIV/AIDS: A New Approach with Indian Evidence on its Magnitude and Determinants [a]

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Abstract

Though HIV/AIDS poses serious risks to our economic security, there is not much of an economics literature that quantifies our awareness and knowledge of this disease and identifies their principal socio economic determinants. That is what this study attempts to do in the context of India which faces an AIDS threat that is the third largest in the world. The study is based on India's National Family Health Surveys covering a long time period that includes the period of economic reforms and beyond.

The contribution is both methodological and empirical. The study shows that the multi dimensional deprivation approach that has been used recently to measure poverty can be used profitably to measure and analyse lack of knowledge of this deadly disease. Evidence is provided on the association between living standards and knowledge of HIV. The use of decomposable multi dimensional measures helps in identifying regions, socio economic groups and aspects of HIV knowledge that are the prime contributors to knowledge deprivation. For example, India's backward classes are at greater risk because of their lower knowledge base. The study identifies the importance of safe sex methods as an area that needs to be targeted in future information campaigns. The study also explores the impact of increased female autonomy in health and economic decision making on their and their partners' knowledge base of the disease along with a host of other economic and demographic determinants.

Key Words: Multi dimensional knowledge deprivation, HIV status, Safe Sex Methods, BMI, Anaemia.

JEL Classification: C01,D13,D19,I30,I31

Measuring the Multi Dimensional Knowledge Deprivation of HIV/AIDS: A New Approach with Indian Evidence on its Magnitude and Determinants

1. Introduction

The threat to human survival posed by HIV/AIDS has few parallels. Though the literature tends to treat the terms, HIV and AIDS, synonymously, it is useful to note the distinction between the two. HIV is a virus that belongs to a subset of viruses called retroviruses or slow virus. AIDS is the disease. The four stages of HIV infection are as follows. The period following the infection is called the "window" when antibodies develop in the person. The second stage is called "seroconversion" when the body develops antibodies to fight off the virus. The third stage, called "symptom free", can last from 6 months to well over 10 years. The final stage is called AIDS when the body immune system is slowly attacked until it is destroyed. If unchecked, AIDS has the potential to wipe out large sections of the human population. The seriousness of HIV/AIDS stems from the risk that it poses not just to the individual that it strikes, but also in its potential to spread quickly to others who come in contact with the infected persons. In 2002, for example, 3.1 million people died of AIDS. Another 42 million people were infected with HIV/AIDS. As the Human Development Report (2003) noted, "one of the most crippling plagues in modern history, AIDS has struck every country, devastating many in Sub-Saharan Africa" (p.99).Though far behind Sub-Saharan Africa in the number of persons infected, South and South-East Asia is the next most HIV affected region with 3.8 million adults and children reported living with HIV [UNAIDS (2009)]. As the second most populous country in this region, behind China, India is of particular concern, and provides the context for this study. According to India's National Control Organisation (NACO), India's AIDS figure is the third largest in the world, and remains the largest in Asia. A particularly alarming finding is that of Gangakhedkar, et. al. (1997) who report that not only are female sex workers (FSW) at very high risk in India but that "infection with HIV is increasing in non - FSWs, previously thought to be at low risk in India" (p.2090).

The threat posed by HIV/AIDS was considered sufficiently serious for the control and reversal of this disease to figure explicitly as Goal 6 in the UN Millennium Development Goals. In the latest update that is available, UNAIDS (2009) reports that in 2008 an estimated 33.4 million people worldwide lived with HIV and that the prevalence was roughly three fold higher in 2008 than in 1990. In its latest report on progress towards achieving the Millennium Development Goals, UN (2010) notes that "the spread of HIV appears to have stabilized in most regions, and more people are surviving longer...globally, the spread of HIV appears to have peaked in 1996" (p.40) , but quickly goes on to add that "HIV remains the world's largest killer". In regional terms, Sub-Saharan Africa remains the most heavily affected region, accounting for 72 % of all new HIV infections in 2008- see UN (2010).

There is now evidence that shows that improved access to antiretroviral therapy is helping to drive a decline in HIV-related mortality, with the UNAIDS (2009) reporting that the global impact of such therapy increased dramatically around 2004 and is still increasing. However, the emphasis in global action continues to be on avoiding or preventing the disease, rather than remedial action once the disease has set in, especially since steps can be taken to limit its spread and eventually get rid of it. While antiretroviral therapy has played a big part in preventing mother to child transmission of this

disease, the fight against HIV/AIDS rests crucially on (a) the spread of knowledge of the existence of the disease itself among many who don't seem to be even aware of it, and (b) the dissemination of correct knowledge among those who have heard of it. For example, UNAIDS (2009) reports that HIV prevalence in several states in South India declined between 2000 and 2007 by 54 % among 15-24 year-old women attending antenatal clinics. Lack of awareness of its existence along with incorrect knowledge on how to avoid the disease can provide significant obstacles to limiting the spread of HIV/AIDS.

At the aggregate country level, India stands out as one of the most ill informed countries in the world on HIV/AIDS, with less than 30 % of its women in the age group, 15-24 years, and between 30 -40 % of its men in the same age group, having comprehensive correct knowledge of HIV over the period 2003-2008 [UN (2010, p. 410]. The widespread realisation that ignorance is a significant contributor to the spread of HIV/AIDS has led to a large literature in India that has tried to assess the extent of people's awareness and knowledge of the disease. This includes the studies by Izhar (1990) on data from Aligarh town and Srinagar city, Balk and Lahiri (1997) on 30,000 ever married women in 13 HIV prone Indian states, Sachdev (1998) on Delhi university students, Lal, et. al. (2000) on college students in Kerala, Hawkes and Santhiya (2002) on sexually transmitted infections in India as whole, Kattumuri (2003) on HIV/AIDS patients in Tamil Nadu, Pallikadavath, et. al. (2005) on rural women in Maharashtra and Tamil Nadu, and, recently, by Bloom and Griffiths (2006) on women from the culturally contrasting states of Karnataka, Kerala and Tamil Nadu. The results are varied and region specific but the overall message from these studies is that, while knowledge of the disease in India remains quite low and grossly inadequate, the level of awareness is alarmingly low for rural women who are particularly vulnerable to this disease. A significant limitation of the above cited literature, that this paper attempts to address, is that knowledge is equated with simple awareness of HIV and no attempt is made to quantify the soundness of that knowledge among those who have heard of the disease. This reflects both lack of information and the absence of a satisfactory methodology for combining various aspects of the knowledge base into a single overall measure of knowledge. Since 1998, India's National AIDS Control Organisation (NACO), the National Institute of Health and Family Welfare and the National Institute of Medical Statistics have been bringing out estimates every year of India's population living with HIV and AIDS. The 2006 estimates, the latest that are available, suggest that national adult prevalence of HIV/AIDS in India is approximately 0.36 percent, amounting to approximately 2.5 million people living with HIV and AIDS; almost 50 % of the previous estimate of 5.2 million people[1]. According to NACO, more men are HIV positive than women. Nationally, the HIV prevalence rate in India is 0.29 %, while for males it is 0.43 %. Prevalence is particularly high in the 15-49 year age group. On a positive note, between 2005 and 2006, prevalence has fallen in some major states-in Maharashtra from 0.80 to 0.74 %, in Tamil Nadu from 0.47 to 0.39 %. However, new areas of concern have emerged. In West Bengal, prevalence has gone up from 0.21 % to 0.30 % and in Rajasthan from 0.12 to 0.17 %. As the NACO website says, "AIDS still threatens the cream of society, those in the prime of their working life".

The present study on the awareness and knowledge of HIV/AIDS in India is in the tradition of the literature mentioned above. It takes as the starting point, as does much of the literature cited above, that the most effective way of stopping the spread and securing reversal of HIV/AIDS is a two step action plan consisting of (a) making more people aware of the disease and ,then, (b) improving

[1] See the NACO website, www.nacoonline.org, for further details.

knowledge of this deadly disease among those who have heard of it. This motivated the present study by pointing to the importance of quantifying both (a) and (b) and to the need to investigate the determinants of both awareness and knowledge of HIV/AIDS. Since India is one of the most ill informed regions of the world on the existence and nature of HIV, and given the large numbers and regional variation involved in the case of India, such an action plan that is tailored to the state level realities in India will be significant in fighting HIV globally. To help in devising effective policies in containing and reversing the spread of HIV, one needs to know the scale of the problem , whether it has increased or decreased in recent years , and the principal factors that help in promoting awareness and knowledge of the disease. That is precisely what this study attempts to do in the context of the most HIV vulnerable region in the world outside of sub Saharan Africa.

The study has the following principal distinguishing features that mark a departure from the previous literature. First, the study proposes a new methodology for measuring the respondent's correct knowledge of HIV/AIDS or, rather, the lack of it that we call "ignorance" in this paper. In quantifying the knowledge level on the HIV among people who have heard of the disease, this study goes beyond previous studies that were limited to people's simple awareness of the disease without further exploring the nature of that knowledge. Viewing the lack of correct knowledge on various aspects of HIV/AIDS as knowledge deprivation, the paper shows how the recent literature on the measurement of multidimensional deprivation can be profitably used to measure the multidimensional ignorance[2] of HIV/AIDS. The present study illustrates the power and usefulness of this new approach by using it to measure and analyse the true understanding of the disease among Indians. This is quite a significant contribution since the respondents are asked questions on various aspects of the disease and one needs a method of combining the inaccuracy or incorrectness of the various answers into a single over all measure of ignorance. This paper proposes and applies a method of doing so. We are not aware of any previous attempt to follow this multidimensional approach in the knowledge literature. Much of the previous literature on ignorance of the true nature of HIV/AIDS has been very restrictive in taking a unidimensional view of ignorance and has not fully utilised the range of information available. The importance of taking into consideration all aspects of one's understanding of an issue cannot be overstated in a context such as this where the measure of HIV/AIDS ignorance forms the starting point for a plan of effective action in combating the spread of the disease. The interest in this study's methodology and results extends much beyond the current context since the approach can be applied whenever the respondent is asked questions on multiple aspects of a particular phenomenon where the answers can be correct or incorrect.

Second, the study covers all the Indian states and over a long time period that includes the period of recent economic reforms in India and beyond. Since this was a period that saw a significant decline in economic deprivation [see Jayaraj and Subramanian (2010), Mishra and Ray (2010)], it is of interest to explore if this was accompanied by a similar decline in unawareness and ignorance of HIV/AIDS. The multi dimensional and multi regional approach of this study has two principal policy uses: (a) the study identifies aspects of the knowledge of HIV/AIDS that are particularly faulty, and (b) it identifies regions/states that are more deprived of knowledge of the disease than the others. Given that steps taken to increase the awareness and knowledge of HIV/AIDS are central to the fight

[2] We use the term "unaware" to denote the fact that the respondent has never heard of HIV/AIDS, and the term "ignorance' to measure the degree of incorrectness in a respondent's knowledge of HIV/AIDS even though she/he is aware of the disease.

against the disease, both these identifications will prove useful in selecting targets for effective intervention. In this context, it is worth noting that this study provides the first evidence on how the socially disadvantaged classes in India, namely, the scheduled classes and tribes, fare on the HIV/AIDS knowledge measure in comparison with the other social groups.

Third, the study uses the unit record data to assess the principal determinants of the unawareness and ignorance of the disease. In this context, the study uses the gender disaggregated information now available on HIV/AIDS in India to provide evidence on the influence of women's empowerment in decision making on their HIV awareness and knowledge along with that of their partners. An important theme running throughout this study is the need to draw a distinction between simple awareness of HIV/AIDS and the soundness of that knowledge. Consistent with that distinction, this paper reports and compares both the magnitudes and determinants of awareness and knowledge of the disease. The study also provides evidence on the interaction between the respondent's knowledge of the disease and her/his status on the disease itself. The Indian data set provides a unique opportunity to study this interaction.

The plan of the rest of this paper is as follows. Section 2 describes, quite briefly, the multi dimensional ignorance measures that we have used in this study and states their principal properties. The data set is described in Section 3. The results are presented and analysed in Section 4.This first part of this section (Section 4.1) reports the magnitudes of unawareness and of lack of knowledge of HIV/AIDS and their change during the chosen period. The second half of this section (4,2 and 4.3) identifies and analyses the principal determinants of unawareness and lack of knowledge of the disease. Section 5 concludes the paper.

2. The Multi Dimensional Ignorance Measures of HIV and their Properties

The literature on multi dimensional deprivation, on which the proposed measures of multi dimensional ignorance or knowledge deprivation are based, now contain several excellent expositions [see, for example, Chakravarty and Majumder (2005), Chakravarty and D'Ambrosio (2006), and Jayaraj and Subramanian (2010)]. No attempt is thus made here at a comprehensive discussion of the measures. The discussion in this section is brief and designed to make this paper self contained.

There are two alternative approaches to measuring multi dimensional ignorance of HIV/AIDS. Let us assume that the respondent is asked questions on different aspects of the disease and that the answer to each question is either correct or incorrect. There are two ways of aggregating the information on the respondents' answers on the questions and over the regions/states into a single measure of knowledge deprivation. Both are followed in this study.

Each of these involves measuring incorrectness in an answer to a specific question across all respondents and then aggregating these question specific ignorance indices into a single number that measures the overall ignorance faced by a country or a region. They differ with respect to the emphasis placed when disaggregating the overall ignorance and working out the percentage contribution of each of the aggregated units. The first [see, for example, Klasen (2000), Bourguignon and Chakravarty (2003), Chakravarty and Majumder (2005)] follows the spirit of the Human Development Index (HDI) in defining overall ignorance as a linear function of the question specific ignorance magnitudes. This approach does not consider regional disaggregation and treats the

whole country as the unit of analysis. It considers the weights of the question specific components in the measure of overall ignorance as either fixed exogenously (as with HDI) or determines them from data by principal components [Klasen (2000)] or estimates them as the ignorance shares of each question in overall ignorance and calculated as percentages using additively decomposable ignorance measures [Bourguignon and Chakravarty (2003), Chakravarty and Majumder (2005)]. In the second approach [Chakravarty and D'Ambrosio (2006), Alkire and Foster (2008), Jayaraj and Subramanian (2010)], the emphasis is on the regional disaggregation of the ignorance measure for the country or group of countries and defining it as additive in the ignorance measures of the subgroups or regions. Jayaraj and Subramanian (2010) modify the approach of Chakravarty and D'Ambrosio (2006) to make it more suitable for the unit record data that is considered in the present study.

This study is a hybrid of both approaches since it compares the ignorance both by questions and by regions[3] with respect to one another and calculates the percentage contribution of each question/state to the overall deprivation.

Let there be K (≥1) questions on HIV/AIDS. Let x_k^j $(k = 1\ldots, K;\ j = 1, \ldots J)$ denote the percentage of individuals in Indian state *j* that gave an incorrect answer to question *k*. Let x_k denote the corresponding ignorance rate on question k in the country as a whole.

The ignorance faced by state *j* is given by[4]:

$$I_\alpha^j = \left(\frac{1}{K}\right) \sum\nolimits_k (x_k^j)^\alpha \quad , \ \alpha \geq 1 \qquad (1)$$

The parameter α is chosen a priori by the evaluator. If we now pool all the states and consider the region/country as a whole, then the measure of ignorance or knowledge deprivation of HIV/AIDS is given by:

$$I_\alpha = \left(\frac{1}{K}\right) \sum\nolimits_k (x_k)^\alpha \quad , \quad \alpha \geq 1 \qquad (2)$$

The ratio, x_k^j/x_k , gives the percentage contribution of ignorance by state *j* on question *k* to that of the country as a whole. If we deflate this ratio by the population share of state *j*, i.e., s^j, then the value of the population adjusted parameter, η_k^j ,tells us if state j is more ignorant than the rest on account of question *k* (if η_k^j>1), or not (if η_k^j<1). The ratio of I_α^j/I_α scaled by the population share of state *j* tells us the deprivation in knowledge or ignorance in state *j vis a vis* the rest of the region/country after aggregating over all the questions on HIV/AIDS.

The 7 key properties that are satisfied by I_α are:

1. If the answers to all the questions are correct, then the overall measure, I_α^j, must be 0.
2. The value of I_α^j will lie between the minimal and maximal values of $(x_k^j)^\alpha$ across the K questions.
3. Ceteris paribus, one more incorrect answer must increase the overall measure of ignorance.

[3] These are the individual states in India.

[4] This is the decomposable poverty measure suggested by Foster, Greer and Thorbecke (1984).

4. An equi-proportionate increase in the ignorance rate on all questions will increase the overall measure by the same proportion.
5. Ceteris paribus, the increase in overall ignorance due to a given increase in incorrectness in the answer to a single question is larger the higher the ignorance on that question. This property is satisfied if $\alpha > 1$.
6. This index is additively decomposable both between states and between questions.
7. Given the unchanged population size for the country as a whole, migration of residents from a less ignorant state to a more ignorant state will increase the ignorance or incorrectness of knowledge of HIV/AIDS in the country as a whole.

Let us now briefly explain the second approach adopted in this study.

Instead of starting from the question specific head count ignorance rates, this approach takes a slightly different route by starting from the proportion of households who are ignorant on 1,2,3, etc. questions, and then aggregating these into regional ignorance or knowledge deprivation rates and from that to that of the nation as a whole. A key point of departure from the previous approach is that, unlike before, the precise wording of the question does not matter here, only the number of incorrect answers matters. Following the notation used by Jayaraj and Subramanian (2010), let n_j denote the number of households that gave incorrect answers to exactly j questions, $j \in \{0,1,\dots,K\}$. Let the total number of households or individuals be denoted by n. Then, three possible headcount rates of ignorance are as follows.

$$H^I = \frac{n_K}{n} \tag{3}$$

$$H^U = \frac{(n_1 + n_2 + \cdots \dots \dots . + n_K)}{n} = \sum_{j=1}^{K} H_j \,, \qquad where\ H_j = \frac{n_j}{n}, j \in \{1,\dots,K\} \tag{4}$$

$$H_{j^*} = \frac{(n_{j^*} + \cdots \dots . + n_K)}{n} = \sum_{j=j^*}^{K} H_j \tag{5}$$

H^I, H^U and H_{j^*} are headcount rates of multi dimensional knowledge deprivation or ignorance. While H^I denotes the headcount ignorance rates of individuals who gave incorrect answers to all the K questions, and is referred to as the "intersection method", H^U denotes the corresponding headcount rates of households that gave incorrect answers to at least 1 question and is referred to as the "union method". It is clear that while H^I understates the magnitude of ignorance, H^U overstates it. Alternatively, H^I measures the magnitude of extreme ignorance while H^U measures the aggregate of mild, moderate and extreme ignorance. A compromise is H_{j^*}, which lies between H^I and H^U , where j^* is specified a priori. It approaches the former when j^* moves towards K, and approaches the latter when j^* moves towards 1.

A more sophisticated measure than H_{j^*}, on the lines of Atkinson (1970)'s inequality measure and Foster, Greer and Thorbecke (1984)'s poverty measure, has been suggested by Jayaraj and Subramanian (2010) and is as follows:

$$\pi_\alpha = \sum_{j=1}^{K} (j/K)^\alpha \ H_j \tag{6}$$

The parameter, α, behaves like the α in case of the Atkinson (1970) and Foster, Greer and Thorbecke (1984) measures. As α increases from 1 to higher values, π_α gives greater weight to the ignorance rates of households that gave incorrect answers to more and more questions, *i.e.,* the more ignorant households and , at very high α values , it measures the magnitudes of extreme ignorance. This is similar to the interpretation of α as an "inequality aversion" parameter in the Atkinson (1970) inequality measure.

If π_α^h is the ignorance measure of a state 'h', then

$$\pi_\alpha^h = \sum_{j=1}^{K} (j/K)^\alpha \; H^h{}_j \qquad (7)$$

The percentage contribution of Indian state *h* to overall ignorance of the region *i* or the country as a whole is represented by the ratio, $\delta^h = \frac{\pi_\alpha^h}{\pi_\alpha}$. If we deflate δ^h by population share, s^h , of state *'h'*, i.e. define $\eta^h = \delta^h / s^h$, then $\eta^h > 1$ suggests that state *'h'* is more ignorant or knowledge deprived on HIV than the region/country as whole, and less deprived if $\eta^h < 1$. Note that, in the context of this study, *'h'* can also refer to the members of the scheduled classes/ tribes (SC/ST), so that η^h will be used as a convenient measure to assess if the SC/ST members are more ignorant or less ignorant on HIV/AIDS than the others.

Similar to the axiomatic properties described for the ignorance measure, I_α , given by eq. (1), the following principal properties are satisfied by π_α , given by eq. (6).

1. Anonymity: The wording of the precise question should not affect the ignorance measure.
2. *Ceteris paribus*, if the range of knowledge deprivation, i.e., the number of questions increases, then the measure will register an increase.
3. *Ceteris paribus*, if a household *'i'* gives an incorrect answer to one more question but household *'j'* gives a correct answer to one more question and household 'i' is ignorant on more questions than household *'j'*, then the measure will register an increase in ignorance. This property will hold if $\alpha > 1$ and is analogous to the Pigou-Dalton transfer principle in the context of income transfer.
4. The ignorance measure is additively decomposable in the population subgroups, i.e., can be written as a population share weighted average of the subgroup ignorance measures. This property is satisfied if $\alpha \geq 0$, and is particularly convenient in the context of the present study.

3. Data

This study is based on the information on HIV/AIDS in the National Family Health Surveys (NFHS) conducted in India. The NFHS is a large-scale, multi-round survey[5] conducted on a representative sample of households throughout India. The First National Family Health Survey (NFHS-1) was conducted in 1992-93 in a limited number of states in India. The survey collected extensive information on population, health, and nutrition, with an emphasis on women and young children. The Second National Family Health Survey (NFHS-2) was conducted in 1998-99 in all 26 states of India with added features on the quality of health and family planning services, domestic violence, reproductive health, anemia, the nutrition of women, and the status of women. The Third National Family Health Survey (NFHS-3) was carried out in 2005-2006. All the three NFHS rounds provided information on the respondents' awareness of HIV/AIDS and, those who showed awareness, were asked questions on various aspects of the disease. The present study considers NFHS-1 and NFHS-3. These two surveys span a time interval (1992/93 – 2005/06) that includes the period of economic reforms in India and beyond. The coverage of states is also larger in case of NFHS-3 which includes all the constituent states of the Indian union, unlike NFHS-1 which considered only 6 states, namely, Assam, Gujarat, Maharashtra, Punjab/Delhi, Tamil Nadu and West Bengal.[6] While NFHS-1 asked a set of 7 questions on knowledge and awareness of HIV/AIDS, this was extended to 9 questions in NFHS-3. Also, while NFHS-1 interviewed ever married women of reproductive age only, NFHS-3 interviewed both men and women thus allowing an examination of the gender effect on the responses. NFHS-3 also contained information on variables that measure women's autonomy that NFHS-1 did not. This study exploits this information in NFHS-3 and provides evidence on the effect of women's say in household decision making on the probability of her awareness of the disease and of her knowledge base on HIV along with that of her partner[7]. The NFHS-3 contains the most detailed information on the HIV aspect by providing information on the HIV status of the respondents who agreed to undergo blood tests. Apart from several international organisations, the National AIDS Control Organization (NACO) and the National AIDS Research Institute (NARI) in India were heavily involved in NFHS-3 by providing technical assistance for the HIV component.

The study is performed in two stages. The first stage measures and compares the rates of awareness and knowledge deprivation of HIV between NFHS-1 and 3 and reports their estimation on a variety of individual, household and state level characteristics. The second stage uses the additional information in NFHS-3 in the estimation paying particular attention to the effects of the intra-household decision variables. In comparing the knowledge deprivation rates between NFHS-1 and 3 and, hence, making an assessment of the changes to them during this period, the study considered the following set of common HIV knowledge questions between NFHS-1 and NFHS-3 to ensure comparability between these two NFHS rounds. These questions are listed in the first panel of Appendix 1. The first seven questions were comparable across NFHS-1 and NFHS-3 and were used to construct the 7 point knowledge incorrect index. The two remaining questions were exclusive to

[5] See the website, www.nfhsindia.org for further details.

[6] These 6 states comprise of the 13 states where the HIV/AIDS questions were asked i.e., Delhi, West Bengal, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Goa, Gujarat, Maharashtra and Tamil Nadu.

[7] This enquiry is line with the recent evidence in the economics literature that suggests that household behaviour is affected by shifts in the balance of power in intra household decision making- see, for example, Basu (2006), Lancaster, Maitra and Ray (2006).

NFHS-3 and along with the above 7 questions, provide the basis for our further calculations and analysis of knowledge deprivation using only the NFHS-3 data on HIV.

Besides information on HIV knowledge, the NFHS-1 and 3 data sets also contain information on whether the household, that the individual belongs to, has access to the following basic amenities: drinking water, electricity, clean fuel for cooking, '*pucca*' house, toilet facility, bicycle and radio. In addition, the data sets contain information on the education of the household head, and whether the household belongs to the poorest wealth quintile. This information was also used and the paper reports on the strength of association between the multi dimensional indices of HIV knowledge deprivation and that based on deprivation of these quality of life dimensions. To do so, the files containing the information on living standards had to be linked to the corresponding files containing information on the HIV aspects.

4. Results

4.1 Estimates of Unawareness rates and Knowledge Deprivation of HIV/AIDS.

The rates of unawareness and the question specific head count rates of knowledge deprivation or ignorance of HIV, in NFHS-1 and 3 and for rural and urban areas, separately, calculated using equations (1), (2) (with α =1 and 3) are presented in Tables 1-4, respectively. Tables 5-8 report the corresponding estimates that measure the importance of an incorrect answer as a contributor (in percentage terms) to the multi dimensional knowledge deprivation of HIV.
The following features are worth noting:

(a) Incorrect answers to the first three questions constitute over 50 % of the explanation of knowledge deprivation and this share increases to over 80% as we increase the value of α. As the evaluator's aversion to knowledge deprivation, that α measures, increases, so does the share of the first three questions to ignorance of HIV. This is generally true of both sectors and for both the NFHS rounds. This suggests that steps to increase knowledge awareness of HIV should target the dissemination of the correct answer to the questions on the practice of safe sex methods. It is interesting to note the rural/urban difference, with the rural areas reporting the question on condom use as the prime contributor, while the urban areas find that incorrect answer to the question on multiple partners is the prime contributor to knowledge deprivation. Lack of knowledge on the last question, namely on the mother to daughter transmission, matters relatively little in the total picture on knowledge deprivation.
(b)The rural head count rates are, with some significant exceptions, higher than the urban. The unawareness and the deprivation rates have, generally, declined over the time period, 1992/93 – 2005/6.The unawareness rates were unacceptably high at the start of our period, especially, in the rural areas, but they have declined sharply, thanks to awareness increasing drive that had a large impact in the urban areas.
(c) The SC/ST display higher ignorance of the correct answer in case of some questions, but not in case of others. However, the SC/ST report higher rates of complete unawareness of HIV than the other socio economic groups. The backwardness of the SC/ST group in this regard is also evident from the fact that their share of those who have not heard of HIV in the 6 states is greater than their share of population in these states.

(d) There is variation between states on both unawareness and ignorance, with the knowledge deprivation rates varying between questions The states which display the highest rates of unawareness are not necessarily the ones which display the highest rates of knowledge deprivation on all the six questions. This is a significant result since it suggests that a state or states that should be prioritised for action to promote HIV awareness need not be the same state or states that should be earmarked for action to reduce knowledge deprivation. In the latter context, the state that is to be prioritised will vary with the question that is being used for knowledge improvement.

A more complete picture is presented in Tables 9 and 10 which report the unawareness rates and the knowledge deprivation indices for 15 states in the rural and urban areas, respectively, based on answers to the 9 questions in NFHS-3. The corresponding measure of contribution of an incorrect answer to the total knowledge deprivation in this 11 question case is reported in Appendix A2. While the overall picture does not change markedly, the additional questions asked in NFHS-3 on allowing HIV infected individuals, especially shop keepers, to continue with their trade contributed significantly to overall knowledge deprivation and this reduced the contribution of the incorrect answers to the questions on safe sex. The backwardness of the SC/ST individuals in terms of their lower awareness of HIV comes out strongly in this enlarged context of all the Indian states. This becomes still more apparent when one notes that the SC/ST group's share of the HIV unaware population at the All India level is much greater than their share of the total population. A comparison of the measures between the SC/ST group and the others reveals some interesting differences between questions on the nature of the differential in both unawareness and knowledge deprivation between the two socio economic groups.

Let us now turn to the measure of knowledge deprivation on HIV among those who have heard of HIV. The estimates of multidimensional deprivation in the two NFHS rounds and for rural and urban areas, both state wise and at All India level, calculated using the measure given by equation (6) at various values of α, are presented in Tables 11-15. Table 11 reports the split of the knowledge measure by the HIV status, as calculated from NFHS-3 which allowed such a disaggregated set of calculations. Table 11 shows that HIV positive individuals are much less well informed about HIV than HIV negative individuals. This result is not very obvious in case of low values of α but the result becomes clear at higher values. If we recall the interpretation of α as the weight given to greater knowledge deprivation, this result suggests that households who have given incorrect answers to a larger number of questions are more likely to have tested HIV positive than HIV negative. This differential is greater in the rural areas than in the urban. This is a significant result for it suggests that incorrect knowledge or knowledge deprivation of HIV could have exposed the individual to the HIV infection. This result acquires added significance if we recall the earlier result that lack of knowledge of safe sexual practices in avoiding HIV were among the biggest contributors to the knowledge deprivation of HIV. In the words of Tang, Petrie and Prasada Rao (2009), " some current unavoidable deaths from AIDS would have been avoided if greater efforts were put onto sex education campaigns years ago to reduce the HIV infection rate" (p. S69).This justifies the motivation of this study in identifying the magnitude and determinants of such knowledge deprivation.

Tables 12-15 report the multi dimensional knowledge deprivation estimates by states and by rural/urban areas in the NFHS-1 and NFHS-3 data sets. These tables also report, in parenthesis, the percentage contribution of a state to all India deprivation exploiting the decomposable property of

the multidimensional deprivation measure. The state wise figures of knowledge deprivation do not differ from one another all that much at low values of α, but they do vary widely as we consider higher values of α, *i.e.*, for the more knowledge deprived individuals. Consistent with the question specific head count rates of incorrect answers, Tables 12-15 confirm that there has been a decline in multi dimensional knowledge deprivation across all the six states and at the All India level. The rural indices exceed their urban counterparts in both NFHS 1 and 3. The last set of columns reports the relative knowledge deprivation of the states and the SC/ST groups in relation to the All India figures by presenting the estimates of η^h , defined above. Let us recall that a value of η^h>1 suggests that the state or the socio economic group is backward in knowledge of the disease compared to the others, and otherwise if $\eta^h < 1$. The picture with respect to the states is not always uniform between the rural and urban areas. For example, rural Assam and rural West Bengal appear more advanced than the others in their knowledge of HIV, but urban West Bengal turns out to be backward in both the NFHS rounds. The relative backwardness of the SC/ST groups in their knowledge of HIV comes out quite clearly from their η^h estimates reported in Tables 12-15. The urban areas report a larger differential than the rural between the knowledge base of the SC/ST group and the others, though the urban differential narrowed sharply over this period.

The movement in the multidimensional deprivation rates between NFHS -1 and NFHS- 3 is presented in Figures 1 and 2 which show the D curves, introduced by Jayaraj and Subramanian (2010). The D curves plot the points showing the percentage of answers that were incorrect on the x axis and the corresponding cumulative percentage of individuals with less than or equal to that percentage of answers that were incorrect on the y axis. The y intercept of the D curve therefore shows the percentage of individuals with no incorrect answers and, not surprisingly, this is very close to zero. While Fig. 1 shows the rural/urban difference in the D curves in case of each of the two NFHS data sets considered here, Fig. 2 shows the difference in the movement in the deprivation rates separately for rural and urban areas between the two rounds. The knowledge deprivation has improved differentially between the rural and urban areas (Fig. 2) so that the rural/urban difference in incorrect knowledge is much smaller in case of NFHS-1 than NFHS-3 (Fig.1). This suggests a faster decline in incorrect knowledge of HIV in urban areas over time than in rural areas. Since much of the HIV knowledge increase can be attributed to information campaigns, this suggests that future campaigns need to target the rural areas much more than has been the case in the past.

The results presented so far relate to the 6 states that are common in both the NFHS data sets where HIV knowledge related questions were asked. A more complete picture is presented in Tables 16 and 17 which report the estimates of the multi-dimensional knowledge estimates in NFHS-3 for all the 15 states in the rural and urban areas, respectively. The backwardness of the SC/ST groups on HIV awareness and knowledge is again seen from these tables with the urban differential between the SC/ST and the others turning out to be higher than the rural. The deprivation indices of the various states are fairly close to one another at α=0, but divergences open up at higher α values. This is confirmed by the reported increase in the coefficient of variation between states of the π_α values with α . If we recall the interpretation of α, this result suggests that the states do vary widely on the knowledge measure if we focus on individuals who lack the correct knowledge on more and more questions. There seems to be no strong negative association between state level economic affluence and knowledge deprivation with some of the economically more advanced states recording higher rates of knowledge deprivation on HIV than the poorer states.

This is confirmed by Table 18 which reports the correlation between the multi dimensional HIV knowledge deprivation indices for the 15 states on NFHS-3 data reported in Tables 16, 17 with the corresponding indices of multi dimensional deprivation of basic amenities[8] of life that have been calculated for the same states and reported in Mishra and Ray (2010). This table also reports the rank correlation between the state rankings in multidimensional HIV knowledge deprivation and deprivation in basic amenities. Though there is weak evidence of positive association between knowledge and amenities, none of the correlation estimates are statistically significant. In other words, states that are historically economically advanced or whose residents have experienced lower deprivation of basic amenities are not necessarily the ones that are better informed on HIV/AIDS. The improvement in HIV awareness and knowledge was largely brought about by the campaigns and policy initiatives, such as the launching of the National AIDS campaign programme in India in 1987, the setting up of the National AIDS Control Organisation (NACS) and the National AIDS Research Institute in Pune, that were aimed at promoting awareness and the knowledge base on this deadly disease[9]. Belonging to a high prevalence state (such as Tamil Nadu) is associated with a higher probability of having heard of HIV/AIDS.

4.2 Regression Estimates of the Determinants of HIV Unawareness and Knowledge Deprivation

The results from Table 18 on the lack of any strong association on aggregate state level data between deprivation in living standards and that in knowledge of HIV/AIDS should not be taken to deny the role of living standards improvement in promoting HIV awareness of the individual and reducing her[10] knowledge deprivation. As we shall see shortly, the results at the level of individuals are at variance with the lack of correlation at the state level that we reported above. The estimates of the Logit regression of the HIV awareness variable (1=heard of HIV,0=not heard) on a set of individual and state of residence characteristics using the pooled NFHS-1,3 data sets is presented on the left hand side of Table 19. The marginal effects are presented in the middle of that table. The OLS estimates of the regression of the fraction of questions answered incorrectly on the same characteristics are presented on the right hand side of Table 19. Older women are more likely to have heard of HIV and more knowledgeable of the disease. The contrary sign and statistical significance of the age square coefficient suggest that this is not true of very old women. The positive role played by improved living standards in promoting awareness and reducing knowledge deprivation is seen from the sign and the statistical significance of the coefficient estimates of the living standards (or amenities) variables. For example, an individual that has access to electricity, fuel, radio and toilet is more likely to have heard of HIV, and more knowledgeable too of the disease. The positive role of the economic factors is seen quite clearly from the estimated coefficient of the

[8] Let us recall what these are: access to drinking water, electricity, clean fuel for cooking, 'pucca' house, toilet facility, bicycle and radio. In addition, we considered the education of the household head, and the household's position on the income quintile.

[9] Basu, et. al. (2004) have provided evidence of the efficacy of a sustainable community-level HIV intervention in maintaining low HIV prevalence among sex workers in India.

[10] The observations in this pooled sample of the NFHS-1 and 3 data sets related only to women of reproductive age.

wealth variable- women who belong to the poorer households, namely, those in the first two wealth quintiles, are less likely to have heard of HIV and less knowledgeable too of this disease. Literacy matters too-women in households with illiterate household head are less likely to have heard of HIV and less knowledgeable of it. However, while the state's literacy rate has little effect on HIV awareness, it does help to increase knowledge of HIV. These estimates confirm the backwardness of the SC/ST women in terms of both their awareness and knowledge of HIV/AIDS. The time coefficient confirms the decline in awareness and improvement in knowledge of the disease in India in the period between the NFHS-1 and NFHS-3 data sets that span the reforms and the immediate post reforms time periods.

4.3 Gender, Females' Say in Household Decisions and Awareness/ Knowledge of HIV

The NFHS-3 data allowed an examination of the effect of gender, and of the female's say in household decision making, on her and her partner's HIV awareness and knowledge by providing information on men and women separately and additional information on female's autonomy and empowerment. The evidence is contained in Table 20 (awareness) and Table 21 (knowledge), respectively, with the latter measured by the fraction of the nine questions that were answered incorrectly. These tables report, respectively, the logit and OLS coefficient estimates of awareness and knowledge of HIV. Each table reports the estimates for men and women separately allowing a gender based comparison between the coefficient estimates. The principal results of the earlier tables hold here as well- for example, lack of education of the household head and lack of access to basic amenities such as electricity and clean fuel reduce the individual's chances of hearing of HIV and, also, reduce the knowledge base of those who have heard of it. Household affluence, measured by the wealth variable, also plays a strong role in promoting HIV awareness and knowledge. The wealth effect is much stronger for females than for males.

The scheduled classes and tribes (SC/ST) are backward in their awareness and knowledge of HIV, and this holds true of both males and females. The residents of a highly literate state are more likely to have heard of HIV than those in a less literate state, but this does not hold for knowledge of HIV. The positive role played by improved state literacy rates in spreading the awareness of HIV is in stark contrast to the absence of a similar association between the state's per capita state net domestic product and HIV awareness. The richer states are not the ones with greater awareness or superior knowledge of HIV on the part of their residents. In other words, while improved literacy both at the individual and state levels helps in promoting HIV awareness and knowledge, in case of wealth and affluence, the effects seem to be stronger at the individual level than at the state level. Most of the qualitative results hold for both men and women, though there is some variation across gender in both size and significance. The strong regional effects, that is evident from the statistical significance of the coefficient estimates of the state dummies in both the tables, suggests that the policies need to be tailored to local realities- an universal policy for the whole country will not be effective.

Of particular interest are the estimated coefficients of the variables that measure the female's power in decision making in a variety of areas. Females who have a greater say in the household's overall spending decisions are more likely to have heard of HIV, but their male partners are less likely to be aware of the disease. This can be attributed to the fact that such women are likely to be

more exposed to outside knowledge and information than their partners. It is interesting to note that this result extends to male partners in case of incorrect knowledge (Table 21).The sign and significance of the female autonomy coefficients provide general support to the idea that an effective way of promoting awareness of HIV and improving the knowledge of both men and women of this disease is by the empowerment of women in household decision making. Women with greater say on their own health are more aware and more knowledgeable of HIV than those who lack that say. It is not just gender that matters but the power, or the lack of it, enjoyed by the female in decision making. These results are consistent with the evidence of Lancaster, Maitra and Ray (2006) who, building on the analytical framework of Basu (2006), found a strong correlation in India between educational outcomes and women's autonomy in making household decisions. There is strong evidence that the health status matters too-undernourished men and women with low BMI are less aware of HIV and less knowledgeable of the disease.

Further evidence on the role played by standard of living indicators, namely, access to basic utilities, for example, radio and bicycle, and by household characteristics such as education and wealth, in promoting knowledge of HIV is presented in Table 22[11] in the form of multinomial logit estimates, with perfect knowledge (i.e. all questions correctly answered) treated as the default option. This table also takes advantage of the information available in NFHS-3, but not in NFHS-1, to present evidence on the role played by female's empowerment in promoting knowledge of HIV not just of themselves but also of their male partners in the household. This table follows Table 21 in presenting the estimates by the gender of the respondent to allow a comparison between the males and females with respect to the sign and magnitude of the various effects. Though the effects often differ in size and significance between males and females, they rarely differ qualitatively in direction.

Respondent's age tends to improve one's knowledge of HIV. The statistical significance of the age-square coefficient suggests, however, an inverted U relationship between HIV knowledge with very elderly individuals displaying less knowledge of the disease than the middle aged ones. Clearly, this is one area where the policy makers cannot rely on the intergenerational transmission of knowledge. An improvement in the standard of living helps in promoting knowledge of HIV by allowing greater access to information channels such as radio and greater mobility by providing individuals with their own bicycles and cheaper modes of transport. Tables 21 and 22 record however a sharp gender differential on the latter result with the benefits of ownership of bicycles for improved knowledge of HIV felt by males but not by females. In fact, the multinomial logit estimates suggest a counterintuitive perverse result for females.

The multinomial logit estimates provide strong evidence on the positive role played by education in promoting knowledge of HIV. Improved levels of literacy whether at the level of the individual by removing her/his status as an illiterate individual or at the state level by improving the state's literacy rate help to promote knowledge of HIV/AIDS. A result of some significance is the feature that females living with literate partners are better informed of the disease than those whose partners have not received primary education. In other words, for females, it is not only their own education that helps but also that of their partners in making them better informed of the HIV disease. This result is consistent with the thesis of Basu and Foster (1998), and extended by

[11] The marginal effects are available on request.

Subramanian (2004) , that introduced the concept of "proximate literacy" on the positive education externality flowing from a literate member to other members of the household. Though the NFHS-3 data set did not ask the same question of males, there is no reason to doubt that such knowledge transmission flows from the female to her male partner as well. As female education has improved in India during this period, this will have been a significant contributory factor to the increased awareness and wider dissemination of knowledge of the disease.

Table 22[12] confirms the earlier results on the positive role played by female empowerment in decision making in improving their knowledge of HIV. In fact, it helps to make their male partners better informed as well. Interestingly, a greater say by females in large household purchases has a larger effect in promoting their male partners' knowledge of HIV than their own. Households where females have a say on spending money are much better informed on HIV on account of both their male and female members. One of the most significant results in this context is the large positive effect that empowering women to make decisions on their own health has on making them better informed on the deadly disease. The present results add to the findings of Bloom and Griffiths (2006) who found on NFHS-2 data that women's autonomy can play a positive role in promoting HIV awareness. Apart from using a more recent data set and utilising more information on intra household decision making, this paper extends the Bloom and Griffiths (2006) study by considering a wider range of dimensions on the respondents' knowledge of the disease using the multi dimensional approach adopted here. The Indian evidence on the positive role that women's empowerment in decision making plays in improving health outcomes is consistent with evidence for other countries- see, for example, Schuler and Hashemi (1994)'s evidence for Bangladesh.

These results provide plausible explanations of the large strides made by India during the reforms and the immediate post reforms period in promoting HIV awareness and making her citizens better informed on HIV. This was a period that witnessed an increase in education, household wealth and affluence accompanied by a reduction in multi dimensional deprivation that was reflected in an increased access to basic amenities, such as electricity, and information sources such as radio and tv. This was also a period that witnessed an increase in women's empowerment as reflected in greater female say in household decision making and in matters relating to her health.

5. Summary and Conclusion

While there is evidence of increasing awareness and improvement in our knowledge base of HIV/AIDS, they are still at alarmingly low levels. This is particularly so in India which is one of the most ill informed countries on this disease, especially by rural Indian women. Notwithstanding the success of antiretroviral therapy in driving a decline in HIV-related mortality, the lack of awareness and knowledge of the disease poses serious risks that require policy action. With an AIDS figure for India that is the third largest in the world, success in reducing the threat posed by HIV in India has huge global ramifications. This paper rests on the view that the best way to fight the disease is to take steps to avoid it. The best way of achieving that is to make people aware of the disease and help them acquire sound information on ways of avoiding it. This study presents evidence that

[12] The marginal effects are available on request.

underlines this importance by finding that HIV infected individuals have a lower understanding of this disease than those who are not infected.

This study was undertaken against this background of the importance of quantifying both the magnitude and determinants of HIV unawareness and ignorance, drawing a distinction between the two. The contribution has been both methodological and empirical. The study shows that the multi dimensional approach, that has been favoured recently over uni dimensional approaches in quantifying deprivation, can also be used profitably to assess the soundness of knowledge of HIV based on the respondents' answers to questions on various aspects of the disease. As more and more questions are asked in future surveys on this and other health related issues, the approach proposed here has the potential to be of much wider use.

The Indian evidence shows that there has been an increase in awareness and knowledge of HIV during a period that has seen significant economic gains and reduction in deprivation. The results show that the principal contributory factors have been (a) increased access to basic amenities, (b) increase in education at the individual level and in literacy rates at the state level, and (c) women's empowerment in household decision making. It is important to note from the statistical significance of several of the coefficient estimates that no single factor has been the exclusive contributory factor to the knowledge gain on HIV. The absence of a strong correlation between the state level economic deprivation and state level ignorance of HIV points to the importance of not relying on economic advancement alone to promote knowledge of this deadly disease. The economically advanced states are not always the ones who are better informed on HIV.

An advantage of the decomposable multi dimensional deprivation measures is that it helps us identify regions, groups and aspects of the knowledge that contribute prominently to the knowledge deprivation. This is important from a policy view point. The paper illustrates this usefulness by finding that SC/ST individuals are less knowledgeable of this disease than the others. The study also finds that failure to appreciate the importance of adopting safe sex methods is one of the principal contributors to the overall knowledge deprivation and requires specific information campaigns targeting this deficiency.

In India, while much of the success in promoting HIV awareness has been due to campaigns such as that conducted by NACO, the country has much more to do to reduce the risk posed by HIV/AIDS significantly. The results of this study provide some targets for specific policy action. The multidimensional approach used here will encourage the collection of information on HIV knowledge on a wider range of questions than was available in the NFHS-3.This data set is an improvement over the earlier National Family Health surveys. In proposing a methodology for harnessing such information on multiple aspects of HIV knowledge in to a single measure that can be used in policy oriented applications, the present study encourages further development of the sample designs and questionnaires on the lines of acquiring a more comprehensive set of information.

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Tables

Table 1: Head Count Ratios of Incorrect Answers - NFHS-1 (Rural Areas)

States	Proportion of population in each state	Proportion of population in each HIV state	Statewise HC for Not Heard of HIV	Head Count Ratios of Failure in Correct Knowledge of [g]						
				No Sex	Use Condom	1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy
Assam[a]	0.083	0.280	0.820	0.826	0.894	0.808	0.512	0.552	0.412	0.275
Gujarat	0.047	0.161	0.954	0.737	0.921	0.939	0.789	0.754	0.386	0.421
Maharastra	0.046	0.155	0.931	0.642	0.891	0.830	0.788	0.679	0.273	0.170
Punjab/Del[a]	0.005	0.017	0.810	0.608	1.000	1.000	0.902	0.784	0.373	0.451
TN	0.049	0.166	0.858	0.899	0.962	0.948	0.525	0.557	0.519	0.317
WB	0.065	0.221	0.965	0.702	0.884	0.926	0.207	0.281	0.314	0.314
CV[c]		0.526	0.077	0.150	0.050	0.081	0.413	0.307	0.225	0.314
All India[b]	1.000	1.000	0.897	0.801	0.914	0.867	0.553	0.568	0.412	0.293
SC/ST[d]	0.255	0.255	0.904	0.836	0.878	0.849	0.476	0.553	0.336	0.294
Non-SCST[e]	0.745	0.745	0.894	0.790	0.925	0.872	0.576	0.572	0.435	0.293

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f Not heard of HIV is the proportion of respondents who said a No to the question

g The propotion of people in each state who are aware of HIV but have responded incorrectly

Table 2: Head Count Ratios of Incorrect Answers - NFHS-1 (Urban Areas)

States	Proportion of population in each state	Proportion of population in each HIV state	Statewise HC for Not Heard of HIV	Head Count Ratios of Failure in Correct Knowledge of [g]: No Sex	Use Condom	1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy
Assam[a]	0.083	0.179	0.576	0.724	0.779	0.729	0.433	0.496	0.289	0.237
Gujarat	0.060	0.130	0.782	0.648	0.836	0.877	0.795	0.771	0.444	0.389
Maharastra	0.076	0.164	0.647	0.689	0.801	0.845	0.876	0.801	0.262	0.285
Punjab/Del[a]	0.143	0.308	0.627	0.599	0.864	0.888	0.738	0.655	0.310	0.434
TN	0.061	0.132	0.593	0.830	0.928	0.919	0.522	0.577	0.453	0.375
WB	0.040	0.087	0.725	0.632	0.822	0.931	0.243	0.336	0.316	0.320
CV[c]		0.457	0.121	0.120	0.063	0.085	0.404	0.289	0.237	0.214
All India[b]	1.000	1.000	0.646	0.682	0.840	0.854	0.634	0.621	0.331	0.347
SC/ST[d]	0.120	0.097	0.740	0.750	0.888	0.858	0.519	0.565	0.419	0.415
Non-SCST[e]	0.880	0.903	0.635	0.677	0.837	0.853	0.642	0.625	0.324	0.342

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation in within states

d The SC/ST imply all the SC/ST across the 15 states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f Not heard of HIV is the proportion of respondents who said a No to the question

g The propotion of people in each state who are aware of HIV but have responded incorrectly

Table 3: Head Count Ratios of Incorrect Answers - NFHS-3 (Rural Areas)

States	Proportion of population in 6 state	Proportion of state pop Not Heard of HIV	Head Count Ratios of Failure in Correct Knowledge of [g]: No Sex	Use Condom	1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy
Assam[a]	0.304	0.235	0.674	0.617	0.888	0.467	0.303	0.278	0.167
Gujarat	0.077	0.513	0.813	0.526	0.625	0.334	0.312	0.374	0.279
Maharastra	0.133	0.207	0.784	0.692	0.817	0.320	0.270	0.325	0.309
Punjab[a]	0.241	0.249	0.755	0.748	0.843	0.348	0.214	0.330	0.173
TN	0.133	0.061	0.809	0.793	0.650	0.491	0.425	0.468	0.218
WB	0.112	0.503	0.641	0.736	0.906	0.540	0.468	0.491	0.362
CV[c]	0.521	0.605	0.097	0.143	0.154	0.226	0.289	0.225	0.312
6 States All India[b]	1.000	0.263	0.737	0.694	0.814	0.420	0.310	0.351	0.218
6 states SC/ST[d]	0.338	0.320	0.723	0.727	0.838	0.470	0.350	0.379	0.239
6 states Non-SCST[e]	0.662	0.233	0.743	0.679	0.804	0.397	0.292	0.338	0.208

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation in within states

d The SC/ST imply all the SC/ST across the 15 states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f Not heard of HIV is the proportion of respondents who said they have not heard of the disease HIV/AIDS

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

Table 4: Head Count Ratios of Incorrect Answers - NFHS-3 (Urban Areas)

States	Proportion of population in 6 state	Proportion of state pop Not Heard of HIV	Head Count Ratios of Failure in Correct Knowledge of [g]: No Sex	Use Condom	1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy
Assam[a]	0.304	0.235	0.674	0.617	0.888	0.467	0.303	0.278	0.167
Gujarat	0.077	0.513	0.813	0.526	0.625	0.334	0.312	0.374	0.279
Maharastra	0.133	0.207	0.784	0.692	0.817	0.320	0.270	0.325	0.309
Punjab[a]	0.241	0.249	0.755	0.748	0.843	0.348	0.214	0.330	0.173
TN	0.133	0.061	0.809	0.793	0.650	0.491	0.425	0.468	0.218
WB	0.112	0.503	0.641	0.736	0.906	0.540	0.468	0.491	0.362
CV[c]	0.521	0.605	0.097	0.143	0.154	0.226	0.289	0.225	0.312
6 States All India[b]	1.000	0.263	0.737	0.694	0.814	0.420	0.310	0.351	0.218
6 states SC/ST[d]	0.338	0.320	0.723	0.727	0.838	0.470	0.350	0.379	0.239
6 states Non-SCST[e]	0.662	0.233	0.743	0.679	0.804	0.397	0.292	0.338	0.208

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 6 states in the analysis

c Coefficient of Variation in within states

d The SC/ST imply all the SC/ST across the 15 states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f Not heard of HIV is the proportion of respondents who said they have not heard of the disease HIV/AIDS

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

Table 5: Percentage Contribution of Incorrect Answers to Total Incorrectness -NFHS-1 Rural

States	Percentage Contribution to Global Index (I_α^f)													
	Avoid HIV/AIDS if No Sex		Avoid HIV/AIDS if Using Condom		Avoid HIV/AIDs if 1 Sexual Partner Only		HIV/AIDS by Mosquito bite		HIV by sharing food with HIV person		Health person can have HIV		HIV can transmit MTC during Pregnancy	
	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3
Assam	19.30	25.63	20.89	32.48	18.88	24.00	11.97	6.11	12.90	7.65	9.63	3.19	6.43	0.95
Gujarat	14.89	13.07	18.62	25.52	18.97	27.01	15.96	16.07	15.25	14.02	7.80	1.88	8.51	2.44
Maharashtra	15.04	11.18	20.85	29.82	19.43	24.14	18.44	20.62	15.89	13.19	6.38	0.86	3.97	0.21
Delhi	11.88	6.27	19.54	27.90	19.54	27.90	17.62	20.47	15.33	13.46	7.28	1.44	8.81	2.56
Tamil Nadu	19.02	24.56	20.35	30.08	20.06	28.82	11.10	4.88	11.79	5.86	10.98	4.73	6.71	1.08
West Bengal	19.36	18.02	24.37	35.94	25.51	41.22	5.69	0.46	7.74	1.15	8.66	1.61	8.66	1.61
All India	18.18	21.65	20.74	32.12	19.67	27.42	12.54	7.11	12.88	7.70	9.35	2.94	6.65	1.06
SC/ST	19.80	26.38	20.80	30.60	20.11	27.66	11.28	4.88	13.10	7.63	7.96	1.71	6.95	1.14
Non-SC/ST	17.70	20.28	20.72	32.48	19.54	27.26	12.91	7.86	12.82	7.70	9.75	3.39	6.56	1.03

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India would imply only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f percentage contribution to Chakravarty and Majumder (2005) Global Index Iα for α=1 and 3 See Appendix A1 for variable description.

Table 6: Percentage Contribution of Incorrect Answers to Total Incorrectness -NFHS-1 Urban

States	Percentage Contribution to Global Index (I_α^f)													
	Avoid HIV/AIDS if No Sex		Avoid HIV/AIDS if Using Condom		Avoid HIV/AIDs if 1 Sexual Partner Only		HIV/AIDS by Mosquito bite		HIV by sharing food with HIV person		Health person can have HIV		HIV can transmit MTC during Pregnancy	
	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3
Assam	19.64	25.65	21.13	31.91	19.78	26.19	11.74	5.47	13.46	8.26	7.84	1.63	6.42	0.90
Gujarat	13.62	10.33	17.56	22.14	18.42	25.56	16.70	19.05	16.20	17.38	9.32	3.31	8.17	2.23
Maharashtra	15.12	12.26	17.57	19.24	18.52	22.54	19.22	25.18	17.57	19.24	5.75	0.67	6.26	0.87
Delhi	13.34	9.12	19.26	27.41	19.78	29.72	16.44	17.06	14.60	11.95	6.91	1.26	9.67	3.47
Tamil Nadu	18.02	21.74	20.16	30.44	19.97	29.57	11.33	5.40	12.53	7.31	9.85	3.55	8.14	2.00
West Bengal	17.55	14.55	22.83	32.07	25.87	46.65	6.75	0.83	9.34	2.19	8.77	1.82	8.89	1.89
All India	15.83	15.06	19.51	28.20	19.82	29.57	14.71	12.08	14.41	11.38	7.67	1.72	8.06	1.99
SC/ST	16.99	19.00	20.12	31.59	19.43	28.42	11.76	6.31	12.80	8.14	9.49	3.32	9.41	3.23
Non-SC/ST	15.73	14.75	19.46	27.89	19.85	29.59	14.94	12.61	14.54	11.64	7.53	1.62	7.95	1.90

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f percentage contribution to Chakravarty and Majumder (2005) Global Index Iα for α=1 and 3

See Appendix A1 for variable description.

Table 7: Percentage Contribution of Incorrect Answers to Total Incorrectness -NFHS-3 Rural

States	Percentage Contribution to Global Index (I_α^f)													
	Avoid HIV/AIDS if No Sex		Avoid HIV/AIDS if Using Condom		Avoid HIV/AIDs if 1 Sexual Partner Only		HIV/AIDS by Mosquito bite		HIV by sharing food with HIV person		Health person can have HIV		HIV can transmit MTC during Pregnancy	
	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3
Assam	19.86	21.92	18.18	16.81	26.16	50.10	13.77	7.30	8.92	1.99	8.20	1.54	4.92	0.33
Gujarat	24.91	50.26	16.12	13.61	19.16	22.87	10.24	3.49	9.56	2.84	11.45	4.89	8.56	2.04
Maharashtra	22.30	32.67	19.69	22.49	23.24	36.99	9.09	2.22	7.68	1.33	9.23	2.32	8.78	1.99
Delhi	22.13	27.91	21.93	27.17	24.71	38.86	10.21	2.74	6.27	0.63	9.68	2.34	5.08	0.34
Tamil Nadu	20.98	32.84	20.57	30.95	16.87	17.07	12.75	7.37	11.02	4.76	12.15	6.37	5.66	0.64
West Bengal	15.46	14.36	17.75	21.75	21.87	40.62	13.04	8.63	11.29	5.60	11.85	6.46	8.73	2.59
All India	20.80	27.96	19.59	23.35	22.98	37.72	11.85	5.16	8.74	2.08	9.90	3.01	6.15	0.72
SC/ST	19.41	24.20	19.50	24.50	22.48	37.56	12.62	6.64	9.40	2.74	10.18	3.49	6.42	0.87
Non-SC/ST	21.47	29.78	19.63	22.75	23.23	37.68	11.47	4.54	8.43	1.80	9.76	2.79	6.01	0.65

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f percentage contribution to Chakravarty and Majumder (2005) Global Index Iα for α=1 and 3 See Appendix A1 for variable description.

Table 8: Percentage Contribution of Incorrect Answers to Total Incorrectness - NFHS-3 Urban

States	Percentage Contribution to Global Index (I_α^f)													
	Avoid HIV/AIDS if No Sex		Avoid HIV/AIDS if Using Condom		Avoid HIV/AIDs if 1 Sexual Partner Only		HIV/AIDS by Mosquito bite		HIV by sharing food with HIV person		Health person can have HIV		HIV can transmit MTC during Pregnancy	
	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3	α=1	α=3
Assam	23.34	26.39	17.89	11.88	30.24	57.44	11.25	2.96	6.40	0.54	6.75	0.64	4.13	0.15
Gujarat	26.41	50.12	18.51	17.26	21.06	25.39	8.71	1.80	8.05	1.42	10.54	3.18	6.71	0.82
Maharashtra	27.64	41.41	20.08	15.87	27.48	40.69	7.77	0.92	5.04	0.25	5.51	0.33	6.48	0.53
Delhi	24.37	31.96	21.91	23.23	26.58	41.45	9.13	1.68	4.90	0.26	7.94	1.11	5.18	0.31
Tamil Nadu	23.28	36.38	22.13	31.26	20.17	23.67	9.88	2.78	8.01	1.48	11.13	3.98	5.39	0.45
West Bengal	18.47	20.41	16.85	15.51	25.05	50.95	11.12	4.45	9.48	2.76	10.86	4.15	8.17	1.77
All India	24.25	34.48	19.95	19.19	25.87	41.84	9.48	2.06	6.48	0.66	8.11	1.29	5.86	0.49
SC/ST	22.46	29.13	20.58	22.42	25.53	42.83	10.03	2.60	6.99	0.88	8.58	1.63	5.82	0.51
Non-SC/ST	24.81	36.12	19.75	18.24	25.97	41.46	9.31	1.91	6.32	0.60	7.97	1.20	5.87	0.48

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f percentage contribution to Chakravarty and Majumder (2005) Global Index Iα for α=1 and 3

See Appendix A1 for variable description.

Table 9: Statewise HCRs and their Percentage Contribution to Total Incorrectness - NFHS- 3 (15 States Rural Areas)

States	Proportion of population in each state	Not Heard of HIV	Head Count Ratios of Failure in Correct Knowledge of [g]								
			No Sex	Use Condom	1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy	HIV postive teacher allowed to teach	Buy vegetables from HIV positive Shop Keeper
Andhra Pr	0.053	0.197	0.366	0.438	0.255	0.737	0.800	0.370	0.238	0.380	0.562
Assam[a]	0.126	0.235	0.289	0.329	0.263	0.737	0.818	0.278	0.167	0.353	0.418
Bihar[a]	0.057	0.669	0.297	0.307	0.174	0.739	0.694	0.338	0.262	0.260	0.360
Gujarat	0.032	0.513	0.287	0.240	0.145	0.821	0.777	0.374	0.279	0.317	0.467
J&K	0.031	0.336	0.178	0.366	0.159	0.668	0.656	0.340	0.178	0.478	0.591
Karnataka	0.076	0.294	0.326	0.373	0.272	0.726	0.750	0.473	0.192	0.281	0.509
Kerala	0.033	0.048	0.275	0.290	0.166	0.789	0.872	0.337	0.169	0.235	0.425
MP[a]	0.083	0.559	0.246	0.260	0.152	0.757	0.800	0.309	0.290	0.187	0.309
Maharastra	0.055	0.207	0.284	0.343	0.230	0.856	0.885	0.325	0.309	0.312	0.463
Orissa	0.045	0.355	0.364	0.446	0.487	0.801	0.782	0.493	0.366	0.321	0.412
Punjab[a]	0.100	0.249	0.216	0.220	0.149	0.786	0.853	0.330	0.173	0.222	0.323
Rajasthan	0.037	0.669	0.246	0.231	0.123	0.773	0.739	0.319	0.314	0.327	0.418
TN	0.055	0.061	0.385	0.424	0.362	0.702	0.735	0.468	0.218	0.380	0.476
UP[a]	0.170	0.445	0.208	0.224	0.136	0.763	0.775	0.338	0.277	0.296	0.369
WB	0.046	0.503	0.383	0.431	0.277	0.685	0.715	0.491	0.362	0.431	0.539
CV[c]			0.224	0.252	0.450	0.067	0.083	0.193	0.271	0.246	0.190
All India[b]	1.000	0.355	0.284	0.320	0.225	0.756	0.792	0.362	0.236	0.311	0.428
SC/ST[d]	0.317	0.437	0.326	0.367	0.264	0.737	0.775	0.395	0.263	0.360	0.482
Non-SCST[e]	0.683	0.315	0.268	0.302	0.211	0.763	0.798	0.350	0.226	0.292	0.407

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation in within states

d The SC/ST imply all the SC/ST across the 25 states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f Not heard of HIV is the proportion of respondents who said a No to the question

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h In brackets: Percentage contributions to overall unawareness a la Chakraborty and Mojumdar(2005)

Table 10 Statewise HCRs and their Percentage Contribution to Total Incorrectness - NFHS-3 (15 States Urban Areas)

States	Proportion of population in each state	Not Heard of HIV	Head Count Ratios of Failure in Correct Knowledge of [g]								
			No Sex	Use Condom	1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy	HIV postive teacher allowed to teach	Buy vegetables from HIV positive Shop Keeper
Andhra Pr	0.109	0.081	0.319	0.369	0.217	0.817	0.876	0.280	0.194	0.246	0.408
Assam[a]	0.087	0.050	0.204	0.216	0.179	0.811	0.896	0.196	0.120	0.231	0.295
Bihar[a]	0.043	0.089	0.228	0.254	0.139	0.829	0.839	0.228	0.228	0.175	0.243
Gujarat	0.026	0.060	0.235	0.224	0.128	0.868	0.838	0.323	0.206	0.255	0.381
J&K	0.017	0.022	0.120	0.190	0.068	0.764	0.842	0.253	0.187	0.271	0.339
Karnataka	0.052	0.055	0.339	0.261	0.213	0.826	0.877	0.395	0.161	0.168	0.344
Kerala	0.019	0.006	0.245	0.253	0.118	0.843	0.891	0.319	0.165	0.188	0.356
MP[a]	0.078	0.082	0.165	0.152	0.082	0.876	0.913	0.196	0.215	0.114	0.185
Maharastra	0.149	0.089	0.173	0.196	0.141	0.889	0.930	0.156	0.184	0.165	0.270
Orissa	0.023	0.024	0.298	0.272	0.348	0.850	0.887	0.358	0.266	0.152	0.235
Punjab[a]	0.101	0.111	0.179	0.163	0.105	0.844	0.915	0.241	0.157	0.160	0.214
Rajasthan	0.022	0.039	0.190	0.159	0.078	0.862	0.867	0.211	0.232	0.184	0.255
TN	0.076	0.011	0.280	0.301	0.270	0.810	0.843	0.377	0.182	0.261	0.325
UP[a]	0.138	0.207	0.181	0.156	0.086	0.832	0.888	0.208	0.248	0.213	0.245
WB	0.060	0.074	0.311	0.294	0.202	0.828	0.836	0.370	0.278	0.293	0.369
CV[c]			0.284	0.275	0.505	0.037	0.035	0.283	0.216	0.254	0.228
All India[b]	1.000	0.101	0.226	0.228	0.157	0.840	0.887	0.252	0.196	0.202	0.290
SC/ST[d]	0.206	0.135	0.245	0.253	0.179	0.823	0.872	0.285	0.214	0.229	0.321
Non-SCST[e]	0.794	0.091	0.222	0.222	0.152	0.845	0.891	0.244	0.192	0.196	0.282

Notes:
a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand
b All India means only the 15 states included in the analysis
c Coefficient of Variation in within states
d The SC/ST imply all the SC/ST across the 25 states
e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste
f Not heard of HIV is the proportion of respondents who said a No to the question
g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)
h In brackets: Percentage contributions to overall unawareness a la Chakraborty and Mojumdar(2005)

Table 11: Measures of HIV Ignorance for People tested for HIV

States	Measures of Multi Dim Ignorance				
	π_0	π_1	π_2	π_3	π_{10}
HIV NEGATIVE SAMPLE					
Rural	0.806	0.321	0.177	0.118	0.039
Urban	0.689	0.225	0.109	0.067	0.020
HIV POSITIVE SAMPLE					
Rural	0.768	0.319	0.187	0.132	0.053
Urban	0.658	0.231	0.121	0.080	0.027

Notes: **1** Includes only the sample who were tested for HIV/AIDS - can be HIV positive or Negative and can be from rural or urban India

Table 12: Multi Dimensional Ignorance Rural India (6 States): NFHS1 (7 point Knowledge index)

States	Population Share	St Rank at π_3 Decend	Measures of Multi Dim Ignorance[i]					DeprContr/Population ratio Based at[h]				
			π_0	π_1	π_2	π_3	π_{10}	π_0	π_1	π_2	π_3	π_{10}
Assam[a]	0.280	1	0.994 (16.59)	0.568 (15.34)	0.389 (15.07)	0.301 (15.37)	0.173 (20.18)	0.59	0.55	0.54	0.55	0.72
Gujarat	0.161	4	1.000 (16.69)	0.711 (19.20)	0.534 (20.71)	0.420 (21.45)	0.167 (19.47)	1.04	1.20	1.29	1.34	1.21
Maharastra	0.155	5	1.000 (16.69)	0.597 (16.12)	0.388 (15.06)	0.273 (13.94)	0.084 (9.81)	1.07	1.04	0.97	0.90	0.63
Punjab[a]	0.017	6	1.000 (16.69)	0.739 (19.98)	0.582 (22.55)	0.481 (24.52)	0.255 (29.84)	9.65	11.55	13.04	14.17	17.25
TN	0.166	3	0.997 (16.65)	0.591 (15.96)	0.398 (15.41)	0.295 (15.04)	0.124 (14.43)	1.00	0.96	0.93	0.90	0.87
WB	0.221	2	1.000 (16.69)	0.496 (13.40)	0.289 (11.19)	0.190 (9.69)	0.054 (6.28)	0.76	0.61	0.51	0.44	0.28
All India[b]	1.000	na	0.996 (100.00)	0.586 (100.00)	0.400 (100.00)	0.303 (100.00)	0.146 (100.00)	1.000	1.000	1.000	1.000	1.000
CV[c]	0.526	na	0.003	0.148	0.251	0.323	0.503	1.522	1.647	1.731	1.789	1.931
SC/ST[d]	0.255	na	0.997 (50.04)	0.555 (48.22)	0.362 (46.79)	0.266 (45.90)	0.129 (46.01)	1.963	1.892	1.836	1.801	1.805
Non-SCST[e]	0.745	na	0.996 (49.96)	0.596 (51.78)	0.411 (53.21)	0.314 (54.10)	0.151 (53.99)	0.671	0.695	0.714	0.726	0.725

Notes: a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India would means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the 25 states. It is the propotion of SC/ST males with incorrect answer

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h Percentage contr= $(\pi i/\sum \pi i)$/POP SHARE

i Percentage contribution of each state's pi to sum of 15 states pis in brackets.ie., $(\pi_i/\sum \pi_i)*100$

Table 13: Multi Dimensional Ignorance Urban India (6 States) NFHS1 (7 point Knowledge index)

States	Population Share	St Rank at π_3	Measures of Multi Dim Ignorance[i]					DeprContr/Population ratio Based at[h]				
			π_0	π_1	π_2	π_3	π_{10}	π_0	π_1	π_2	π_3	π_{10}
Assam[a]	0.179	5	0.983 (16.47)	0.495 (14.14)	0.301 (12.86)	0.210 (12.25)	0.089 (13.30)	0.919	0.789	0.718	0.683	0.742
Gujarat	0.130	1	1.000 (16.74)	0.679 (19.38)	0.500 (21.36)	0.390 (22.76)	0.167 (24.89)	1.290	1.493	1.645	1.754	1.918
Maharastra	0.164	3	0.998 (16.71)	0.610 (17.45)	0.411 (17.60)	0.300 (17.53)	0.118 (17.61)	1.019	1.064	1.073	1.069	1.074
Punjab[a]	0.308	2	0.999 (16.72)	0.623 (17.83)	0.431 (18.46)	0.321 (18.78)	0.122 (18.27)	0.543	0.579	0.600	0.610	0.593
TN	0.132	4	0.998 (16.71)	0.580 (16.60)	0.386 (16.53)	0.282 (16.49)	0.107 (15.96)	1.262	1.254	1.248	1.245	1.205
WB	0.087	6	0.996 (16.67)	0.508 (14.54)	0.306 (13.10)	0.207 (12.09)	0.066 (9.84)	1.923	1.678	1.511	1.395	1.134
All India[b]	1.000	na	0.995 (100.00)	0.584 (100.00)	0.390 (100.00)	0.286 (100.00)	0.112 (100.00)	1.000	1.000	1.000	1.000	1.000
CV[c]	0.457	na	0.006	0.121	0.196	0.244	0.306	0.399	0.365	0.370	0.387	0.417
SC/ST[d]	0.097	na	0.992 (49.92)	0.580 (49.81)	0.385 (49.69)	0.282 (49.66)	0.111 (49.94)	5.167	5.157	5.144	5.140	5.170
Non-SCST[e]	0.903	na	0.996 (50.08)	0.584 (50.19)	0.390 (50.31)	0.286 (50.34)	0.112 (50.06)	0.554	0.556	0.557	0.557	0.554

Notes: a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the 25 states. It is the propotion of SC/ST males with incorrect answer

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h Percentage contr= $(\pi i/\sum \pi i)$/POP SHARE

i Percentage contribution of each state's pi to sum of 15 states pis in brackets.ie., $(\pi_i/\sum \pi_i)*100$

Table 14: Multi Dimensional Deprivation 6 States Rural India: NFHS3 (7 point Knowledge index)

States	Population Share	St Rank at π_3 Decend	Measures of Multi Question Ignorance[i]					DeprContr/Population ratio Based at[h]				
			π_0	π_1	π_2	π_3	π_{10}	π_0	π_1	π_2	π_3	π_{10}
Assam[a]	0.272	4	0.993 (16.68)	0.514 (15.77)	0.318 (15.13)	0.224 (14.76)	0.085 (14.73)	0.61	0.58	0.56	0.54	0.54
Gujarat	0.150	5	0.971 (16.31)	0.462 (14.18)	0.283 (13.45)	0.200 (13.16)	0.073 (12.68)	1.09	0.95	0.90	0.88	0.85
Maharastra	0.105	2	0.996 (16.72)	0.571 (17.54)	0.388 (18.46)	0.296 (19.54)	0.153 (26.66)	1.59	1.67	1.75	1.86	2.53
Punjab[a]	0.228	6	0.996 (16.73)	0.509 (15.64)	0.301 (14.30)	0.198 (13.06)	0.050 (8.79)	0.73	0.68	0.63	0.57	0.38
TN	0.031	1	0.998 (16.75)	0.606 (18.60)	0.413 (19.62)	0.305 (20.13)	0.113 (19.72)	5.38	5.97	6.30	6.46	6.33
WB	0.214	3	1.000 (16.79)	0.595 (18.28)	0.401 (19.05)	0.294 (19.35)	0.100 (17.43)	0.79	0.86	0.89	0.91	0.82
All India[b]	1.000	na	0.994 (100.00)	0.536 (100.00)	0.340 (100.00)	0.241 (100.00)	0.087 (100.00)	1.000	1.000	1.000	1.000	1.000
CV[c]		na	0.011	0.104	0.161	0.201	0.372	1.082	1.169	1.211	1.229	1.205
SC/ST[d]	0.412	na	0.994 (49.99)	0.563 (51.77)	0.371 (53.21)	0.271 (54.35)	0.108 (57.99)	1.214	1.257	1.292	1.320	1.408
Non-SCST[e]	0.588	na	0.995 (50.01)	0.524 (48.23)	0.326 (46.79)	0.227 (45.65)	0.078 (42.01)	0.850	0.820	0.796	0.776	0.714

Notes: a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the 25 states. It is the propotion of SC/ST males with incorrect answer

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h Percentage contr= $(\pi i/\sum \pi i)$/POP SHARE

i Percentage contribution of each state's pi to sum of 15 states pis in brackets.ie., $(\pi_i/\sum \pi_i)*100$

j Only females were considered for this analysis

Table 15: Multi Dimensional Ignorance 6 States Urban India: NFHS3 (7 point Knowledge index)

States	Population Share	St Rank at π3 Decend	Measures of Multi Dim Ignorance[i] π_0	π_1	π_2	π_3	π_{10}	DeprContr/Population ratio Based at[h] π_0	π_1	π_2	π_3	π_{10}
Assam[a]	0.179	6	0.990	0.440	0.238	0.150	0.043	0.93	0.88	0.83	0.80	0.75
			(16.72)	(15.82)	(14.95)	(14.30)	(13.51)					
Gujarat	0.130	3	0.973	0.444	0.255	0.170	0.052	1.27	1.23	1.23	1.25	1.24
			(16.42)	(15.95)	(16.00)	(16.16)	(16.12)					
Maharastra	0.164	4	0.995	0.444	0.243	0.155	0.049	1.02	0.97	0.93	0.90	0.94
			(16.80)	(15.95)	(15.22)	(14.74)	(15.35)					
Punjab[a]	0.308	5	0.984	0.442	0.241	0.152	0.044	0.54	0.52	0.49	0.47	0.44
			(16.61)	(15.88)	(15.12)	(14.49)	(13.61)					
TN	0.132	1	0.998	0.521	0.315	0.213	0.058	1.27	1.41	1.49	1.53	1.36
			(16.85)	(18.72)	(19.76)	(20.21)	(17.94)					
WB	0.087	2	0.983	0.492	0.302	0.211	0.075	1.91	2.04	2.18	2.32	2.71
			(16.60)	(17.68)	(18.94)	(20.10)	(23.47)					
All India[b]	1.000	na	0.989	0.460	0.260	0.170	0.052	1.000	1.000	1.000	1.000	1.000
			(100.00)	(100.00)	(100.00)	(100.00)	(100.00)					
CV[c]		na	0.008	0.068	0.117	0.154	0.204	0.371	0.419	0.469	0.511	0.605
SC/ST[d]	0.206	na	0.992	0.488	0.286	0.191	0.058	2.430	2.519	2.576	2.610	2.605
			(50.11)	(51.94)	(53.12)	(53.82)	(53.71)					
Non-SCST[e]	0.794	na	0.988	0.452	0.253	0.164	0.050	0.629	0.605	0.591	0.582	0.583
			(49.89)	(48.06)	(46.88)	(46.18)	(46.29)					

Notes:

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India means only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the 25 states. It is the propotion of SC/ST males with incorrect answer

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h Percentage contr= $(\pi i/\sum \pi i)$/POP SHARE

i Percentage contribution of each state's pi to sum of 15 states pis in brackets.ie., $(\pi_i/\sum \pi_i)*100$

j Only females were considered for this analysis

Figures

Figure 1: D-Curves - NFHS 1 and NFHS 3

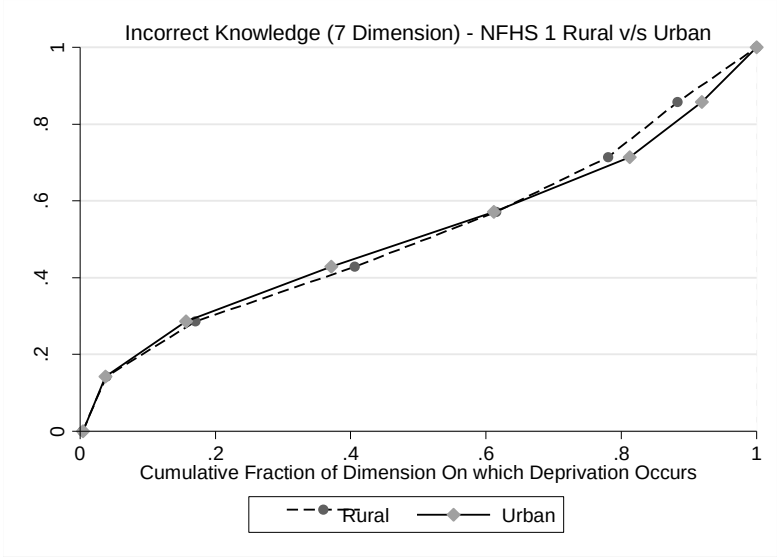

Figure 1a: NFHS-1

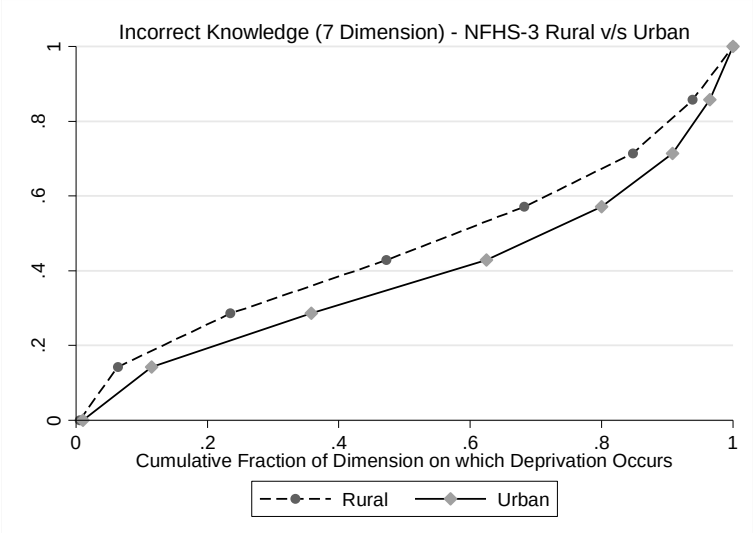

Figure 1b: NFHS – 3

Figure 2: D-Curves - Rural and Urban

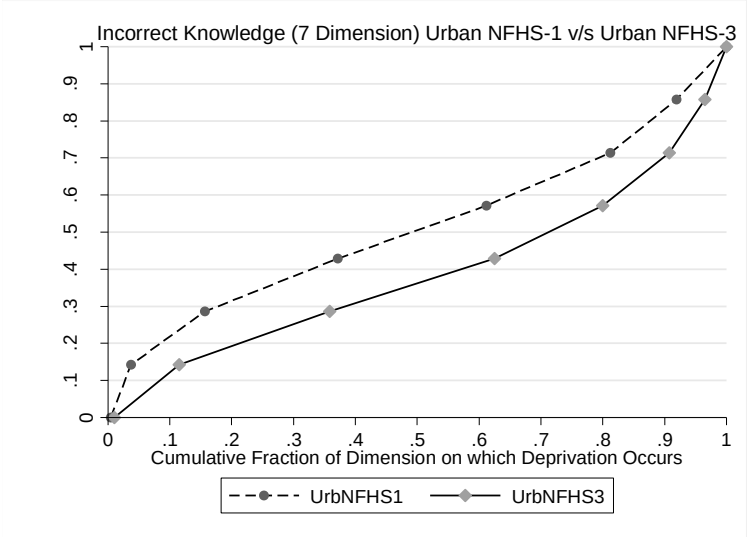

Figure 2a: Urban

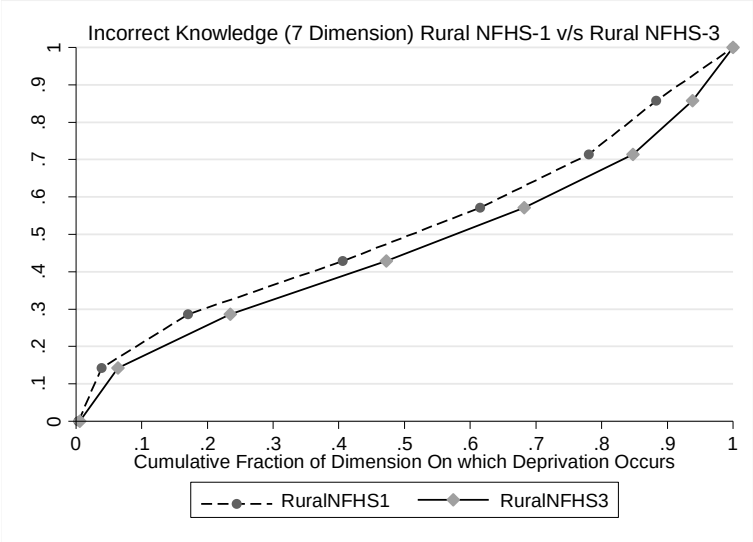

Figure 2b: Rural

Table 16: Multi Dimensional Ignorance Rural India: NFHS3 (9 point Knowledge index)

States	Population Share	St Rank at π_3	Measures of Multi Dim Ignorance[i]					DeprContr/Population ratio Based at[h]				
			π_0	π_1	π_2	π_3	π_{10}	π_0	π_1	π_2	π_3	π_{10}
Andhra Pr	0.053	5	0.996	0.461	0.264	0.177	0.058	1.25	1.38	1.49	1.58	1.78
			(6.69)	(7.35)	(7.94)	(8.40)	(9.51)					
Assam[a]	0.126	7	0.995	0.406	0.214	0.137	0.045	0.53	0.51	0.51	0.52	0.58
			(6.68)	(6.48)	(6.43)	(6.49)	(7.31)					
Bihar[a]	0.057	10	0.983	0.381	0.190	0.114	0.026	1.15	1.06	1.00	0.95	0.75
			(6.60)	(6.08)	(5.71)	(5.43)	(4.29)					
Gujarat	0.032	8	0.994	0.412	0.209	0.125	0.028	2.10	2.07	1.98	1.88	1.45
			(6.67)	(6.57)	(6.29)	(5.96)	(4.61)					
J&K	0.031	9	0.990	0.401	0.203	0.121	0.030	2.11	2.03	1.94	1.83	1.57
			(6.65)	(6.41)	(6.09)	(5.77)	(4.93)					
Karnataka	0.076	6	0.993	0.434	0.234	0.148	0.042	0.87	0.91	0.92	0.92	0.89
			(6.67)	(6.92)	(7.03)	(7.02)	(6.79)					
Kerala	0.033	11	0.997	0.395	0.193	0.111	0.022	2.05	1.93	1.77	1.62	1.10
			(6.69)	(6.31)	(5.79)	(5.30)	(3.58)					
MP[a]	0.083	14	0.986	0.368	0.175	0.102	0.023	1.20	1.06	0.95	0.88	0.68
			(6.62)	(5.87)	(5.27)	(4.84)	(3.76)					
Maharastra	0.055	4	0.997	0.445	0.257	0.179	0.078	1.21	1.28	1.40	1.54	2.31
			(6.69)	(7.10)	(7.72)	(8.49)	(12.74)					
Orissa	0.045	1	0.997	0.497	0.302	0.211	0.078	1.48	1.75	2.01	2.22	2.84
			(6.70)	(7.93)	(9.07)	(10.01)	(12.83)					
Punjab[a]	0.100	15	0.995	0.364	0.167	0.094	0.018	0.67	0.58	0.50	0.45	0.30
			(6.68)	(5.80)	(5.03)	(4.46)	(2.96)					
Rajasthan	0.037	12	0.994	0.388	0.189	0.110	0.022	1.80	1.67	1.54	1.42	0.96
			(6.67)	(6.19)	(5.69)	(5.25)	(3.57)					
TN	0.055	3	0.993	0.461	0.267	0.180	0.057	1.21	1.33	1.45	1.55	1.67
			(6.67)	(7.36)	(8.04)	(8.56)	(9.25)					
UP[a]	0.170	13	0.991	0.376	0.183	0.108	0.028	0.39	0.35	0.32	0.30	0.27
			(6.65)	(6.00)	(5.50)	(5.16)	(4.52)					
WB	0.046	2	0.990	0.479	0.280	0.186	0.057	1.44	1.65	1.82	1.91	2.02
			(6.65)	(7.65)	(8.40)	(8.85)	(9.35)					
All India[b]	1.000	na	0.993	0.413	0.218	0.137	0.041	1.000	1.000	1.000	1.000	1.000
			(100)	(100)	(100)	(100)	(100)					
CV[c]	0.587	na	0.004	0.101	0.191	0.265	0.499	0.581	0.696	0.730	0.766	0.946
SC/ST[d]	0.317	na	0.992	0.441	0.247	0.164	0.054	1.579	1.654	1.723	1.775	1.897
			(49.97)	(52.34)	(54.52)	(56.20)	(60.03)					
Non-SCST[e]	0.683	na	0.993	0.402	0.206	0.127	0.036	0.732	0.697	0.665	0.641	0.585
			(50.03)	(47.66)	(45.48)	(43.80)	(39.97)					

Notes: a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

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i Percentage contribution of each state's pi to sum of 15 states pis in brackets.ie., $(\pi_i/\sum \pi_i)*100$

Table 17: Multi Dimensional Ignorance Urban India: NFHS3 (9 point Knowledge index)

States	Population Share	St Rank at $\pi 3$ Decend	Measures of Multi Dim Ignorance[i]					DeprContr/Population ratio Based at[h]				
			π_0	π_1	π_2	π_3	π_{10}	π_0	π_1	π_2	π_3	π_{10}
Andhra Pr	0.109	2	0.996	0.414	0.215	0.133	0.035	0.61	0.69	0.77	0.83	0.92
			(6.67)	(7.50)	(8.33)	(8.98)	(9.98)					
Assam[a]	0.087	8	0.995	0.350	0.159	0.091	0.023	0.76	0.73	0.71	0.70	0.77
			(6.67)	(6.34)	(6.15)	(6.11)	(6.70)					
Bihar[a]	0.043	9	0.992	0.351	0.159	0.089	0.018	1.54	1.48	1.42	1.38	1.21
			(6.65)	(6.37)	(6.15)	(5.97)	(5.24)					
Gujarat	0.026	6	0.998	0.384	0.183	0.104	0.021	2.60	2.70	2.74	2.72	2.34
			(6.68)	(6.96)	(7.06)	(7.01)	(6.01)					
J&K	0.017	12	0.991	0.337	0.146	0.079	0.016	3.97	3.65	3.38	3.16	2.80
			(6.64)	(6.11)	(5.65)	(5.29)	(4.68)					
Karnataka	0.052	5	0.997	0.398	0.193	0.110	0.023	1.29	1.39	1.44	1.44	1.30
			(6.68)	(7.22)	(7.47)	(7.45)	(6.73)					
Kerala	0.019	7	0.999	0.375	0.174	0.098	0.021	3.47	3.53	3.50	3.42	3.09
			(6.69)	(6.80)	(6.75)	(6.59)	(5.95)					
MP[a]	0.078	15	0.994	0.322	0.132	0.068	0.012	0.86	0.75	0.66	0.59	0.46
			(6.65)	(5.83)	(5.11)	(4.61)	(3.59)					
Maharastra	0.149	10	0.997	0.345	0.154	0.087	0.024	0.45	0.42	0.40	0.39	0.47
			(6.68)	(6.25)	(5.95)	(5.87)	(7.02)					
Orissa	0.023	3	0.999	0.407	0.208	0.126	0.032	2.96	3.27	3.56	3.78	4.15
			(6.69)	(7.38)	(8.03)	(8.53)	(9.36)					
Punjab[a]	0.101	13	0.994	0.331	0.141	0.077	0.019	0.66	0.59	0.54	0.51	0.53
			(6.66)	(5.99)	(5.47)	(5.17)	(5.41)					
Rajasthan	0.022	14	0.997	0.338	0.142	0.073	0.012	2.98	2.73	2.45	2.20	1.52
			(6.68)	(6.12)	(5.50)	(4.94)	(3.42)					
TN	0.076	4	0.994	0.406	0.206	0.123	0.027	0.88	0.97	1.05	1.10	1.01
			(6.66)	(7.35)	(7.95)	(8.31)	(7.66)					
UP[a]	0.138	11	0.994	0.340	0.150	0.085	0.023	0.48	0.45	0.42	0.41	0.48
			(6.66)	(6.16)	(5.82)	(5.70)	(6.57)					
WB	0.060	1	0.993	0.420	0.223	0.140	0.041	1.10	1.26	1.42	1.57	1.93
			(6.65)	(7.61)	(8.61)	(9.47)	(11.68)					
All India[b]	1.000	na	0.995	0.368	0.172	0.099	0.023	1.000	1.000	1.000	1.000	1.000
			(100.00)	(100.00)	(100.00)	(100.00)	(100.00)					
CV[c]	0.643	na	0.002	0.093	0.175	0.231	0.348	0.656	0.646	0.669	0.693	0.763
SC/ST[d]	0.206	na	0.995	0.380	0.186	0.111	0.029	2.424	2.489	2.561	2.619	2.704
			(49.98)	(51.32)	(52.80)	(54.00)	(55.76)					
Non-SCST[e]	0.794	na	0.995	0.360	0.166	0.095	0.023	0.630	0.613	0.595	0.579	0.557
			(50.02)	(48.68)	(47.20)	(46.00)	(44.24)					

Notes: a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India would imply only the 15 states included in the analysis

c Coefficient of Variation within states

d The SC/ST imply all the SC/ST across the 25 states. It is the propotion of SC/ST males with incorrect answer

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h Percentage contr= $(\pi i/\sum \pi i)$/POP SHARE

i Percentage contribution of each state's pi to sum of 15 states pis in brackets.ie., $(\pi_i/\sum \pi_i)*100$

Table 18: Strength of Association between Deprivation of Amenities and Deprivation of Knowledge on HIV/AIDS[1](NFHS-3)

NFHS 3	Correlation Coefficient (between deprivaton magnitudes)		Spearman Rank Order[1] Correlation (between state rankings)	
	Rural	Urban	Rural	Urban
π_0	-0.270 (0.234)	0.191 (0.238)	-0.2724 (0.267)	0.0986 (0.276)
π_1	0.258 (0.234)	0.306 (0.231)	0.0627 (0.277)	0.4391 (0.249)
π_2	0.321 (0.230)	0.330 (0.229)	0.0842 (0.276)	0.4208 (0.252)
π_3	0.339 (0.228)	0.288 (0.232)	0.134 (0.275)	0.3005 (0.265)

Notes: [1] Standard error in parenthesis

[2] States ranked in decending order of π's

Table 19: Logistic and OLS Regression on Pooled NFHS1 and NFHS3 Data for Females

Pooled NFHS 1 and NFHS 3 Females	Heard of HIV/AIDS:Logistic Regression				Percentage Incorrect - OLS Regression	
			Marginal Effects		Coef.	Std. Err.
	Coeff	Std Error	Coeff	Std Error		
Access to Amenities						
NoAcc_DrinkWater	0.0176	0.035	0.003*	0.006	-0.057	0.274
No Acc_Electricity	-0.7298*	0.049	-0.1404*	0.010	3.536*	0.484
No Acc_Fuel	-0.6206*	0.048	-0.1042*	0.008	4.061*	0.336
Non Pucca House	0.0372	0.043	0.0064	0.007	0.665*	0.333
No Own Radio	-0.2337*	0.037	-0.0395*	0.006	2.413*	0.252
No Own Bicycle	0.1389*	0.033	0.0238*	0.006	0.198	0.236
No Acc_toilet	-0.4825*	0.041	-0.0861*	0.008	2.605*	0.362
Demographic Variables						
Illiterate	-1.4327*	0.035	-0.2637*	0.007	8.661*	0.298
Age	0.0979*	0.014	0.0168*	0.002	-0.333*	0.112
Age Sq	-0.0015*	0.000	-0.0003*	0.000	0.007*	0.002
Assam	6.6958*	0.602	0.5319*	0.033	12.772	8.527
Maharashtra	-1.8837	1.601	-0.4007	0.362	-36.239***	21.161
Punjab/Del	-2.2676*	1.184	-0.4693**	0.247	-27.21***	15.707
TN	2.5356*	1.009	0.2533*	0.053	-17.621	13.225
WB	2.7341*	0.331	0.2649*	0.017	-1.925	4.395
Rural	-0.2594*	0.043	-0.0442*	0.007	1.385*	0.311
No Listen Radio 1 wk	-0.7003*	0.040	-0.1129*	0.006	3.964*	0.253
Partner Lit/Edu	0.6032*	0.039	0.1144*	0.008	-3.526*	0.390
Currently Married	-0.0532	0.060	-0.009	0.010	-1.308*	0.465
Wealth_Poorest	-0.3957*	0.050	-0.0719*	0.010	1.59*	0.472
Hindu	0.8693*	0.168	0.1674*	0.036	-1.978	1.724
Muslim	0.6232*	0.175	0.0919*	0.022	-1.467	1.769
Christian	1.2029*	0.175	0.1489*	0.015	-3.627*	1.760
Sikh	0.9132*	0.184	0.1213*	0.018	-0.038	1.828
Jain	1.9258*	0.679	0.1811*	0.026	-7.516*	2.350
Buddhist	1.2499*	0.214	0.1472*	0.016	-2.082	1.918
SC/ST	-0.124*	0.037	-0.0215*	0.006	1.32*	0.291
State Variables						
PC_NSDP	0.0005*	0.000	0.0001*	0.000	0.001	0.001
State_Lit_Rate	0.1588	0.119	0.0272	0.020	2.92***	1.558
NFHS1 (1993-94)	1.9153*	0.943	0.2007*	0.052	26.802**	12.983
Constant	-22.059*	7.999			-153.222	105.921

Notes:
a Heard of HIV/AIDS is 1 if answer is yes
b Percentage Incorrect is the percentage of incorrect responses on the 7 point Incorrect Knowledge Index which takes values 0 to 7.

Table 20: Logistic Regression for Males and Females (NFHS 3)

(dependent variable Heard of HIV/AIDS)

Heard of HIV/AIDS = 1			Marginal Effects				Marginal Effects	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Access to Amenities								
NoAcc_DrinkWater	-0.0565	0.0472	-0.0025	0.0021	0.1064**	0.0501	0.0201**	0.0095
No Acc_Electricity	-0.4885*	0.0540	-0.0245*	0.0032	-0.5076*	0.0556	-0.1013*	0.01172
No Acc_Fuel	-0.7018*	0.0844	-0.0297*	0.0034	-0.5544*	0.0750	-0.0994*	0.01254
Non Pucca House	0.0628	0.0622	0.0027	0.0027	0.0013	0.0599	0.0002	0.0113
No Own Radio	-0.205*	0.0517	-0.0087*	0.0022	-0.2322*	0.0527	-0.0429*	0.00953
No Own Bicycle	-0.0502	0.0443	-0.0022	0.0019	-0.0441	0.0430	-0.0083	0.00813
No Acc_toilet	-0.3133*	0.0654	-0.014*	0.0030	-0.3754*	0.0630	-0.0705*	0.01181
Demographic Variables								
Age	-0.01	0.0192	-0.0004	0.0008	0.0775*	0.0201	0.0146*	0.0038
Age Sq	-0.0004***	0.0003	-0.00002***	0.0000	-0.0014*	0.0003	-0.0003*	0.00006
Illiterate	-1.6272*	0.0439	-0.1114*	0.0048	-1.5458*	0.0518	-0.2772*	0.00854
No Listen Radio 1 wk	-0.5985*	0.0461	-0.0255*	0.0020	-0.7111*	0.0540	-0.1244*	0.00867
Partner Lit/Edu	.	.	.	.	0.439*	0.0454	0.0859*	0.00923
AP	1.3963*	0.1047	0.0395*	0.0021	1.3316*	0.0945	0.1843	0.00915
Assam	0.2481	0.1575	0.0098***	0.0057	0.531*	0.1276	0.0896*	0.01912
Gujarat	-1.0193*	0.1546	-0.07*	0.0154	-0.7548*	0.1201	-0.1638*	0.02877
J&K	0.9535*	0.2635	0.0277*	0.0048	0.8046**	0.3223	0.1215*	0.037
Karnataka	-0.1124	0.1447	-0.0051	0.0069	0.5929*	0.0965	0.0974*	0.01363
MP	-1.0537*	0.2460	-0.0704*	0.0235	-0.05	0.1095	-0.0095	0.02102
Maharashtra	-0.813*	0.2258	-0.047*	0.0168	0.4202*	0.1076	0.0725*	0.01682
Orissa	-0.2838	0.2369	-0.014	0.0131	0.6793*	0.1242	0.1079*	0.01627
Rajasthan	-0.9739*	0.2187	-0.065*	0.0208	-0.3461*	0.1174	-0.0702*	0.02541
Tamil Nadu	1.1283*	0.2313	0.0337*	0.0047	2.0923*	0.1267	0.242*	0.00818
UP	-0.4164*	0.1565	-0.0204*	0.0086	-0.0675	0.1060	-0.0129	0.02054
WB	-0.8833*	0.1806	-0.0562*	0.0158	-0.4245*	0.1131	-0.0871*	0.02485
Rural	-0.6284*	0.0620	-0.0276*	0.0028	-0.486*	0.0584	-0.0894*	0.01049
Wealth_Poorest	-0.5128*	0.0625	-0.0251*	0.0035	-0.4504*	0.0625	-0.087*	0.01237
Hindu	0.3256	0.2599	0.0156	0.0137	0.4809***	0.2755	0.0977	0.0597
Muslim	0.3523	0.2682	0.0136	0.0091	0.5889**	0.2859	0.0971*	0.04036
Christian	0.0692	0.2877	0.0029	0.0118	0.8583*	0.2951	0.1305*	0.03449
Sikh	0.4217	0.3215	0.0153	0.0096	0.4721	0.3300	0.0788*	0.04784
Jain	1.9029***	1.1265	0.0388*	0.0081	1.1878	1.0674	0.1593	0.09064
Buddhist	0.8166*	0.3460	0.0251*	0.0072	1.0606*	0.3380	0.1491	0.03252
State Variables								
PC_NSDP	-3.2*	1.56†	-1.40*†	0.0000	-5.18*†	12.900†	0.977*†	0
State_Lit_Rate	0.0899*	0.0189	0.0039*	0.0008	0.0589*	0.0074	0.0111*	0.00138
SC/ST	-0.1814*	0.0463	-0.0082*	0.0022	-0.0836***	0.0453	-0.0159**	0.00863
Female Autonomy								
Fem Say: Spend Money	-0.1764*	0.0475	-0.0074*	0.0020	0.2232*	0.0604	0.0437*	0.01227
Fem Say: Large HHd purchase	0.2637*	0.0512	0.012*	0.0025	0.0985***	0.0552	0.0187***	0.01057
Fem Say: Daily HHd purchase	-0.0615	0.0466	-0.0027	0.0021	0.0692	0.0578	0.0132	0.01109
Final Say: Fem Own Health	.	.	.	.	0.1224*	0.0514	0.0234**	0.00996
Beat Wife if Refuse Sex	-0.1086	0.0738	-0.0049	0.0035	0.0102	0.0479	0.0019	0.00906
Health Variables								
Anemic	-0.2857*	0.0456	0.0134*	0.0023	-0.1036*	0.0422	0.0195**	0.00793
Bmi< 18.5 LOW	-0.2135*	0.0441	-0.0098*	0.0022	-0.2578*	0.0444	-0.0498*	0.00878
BMI>24.9 HIGH	0.5207*	0.0965	0.0195*	0.0031	0.4227*	0.0792	0.0739*	0.01265
Constant	-0.7917	1.1400	.	.	-1.1255*	0.4793	.	.

Notes: Heard of HIV/AIDS takes value '1' if individual has heard of HIV and '0' otherwise

† Coefficient and Standard Deviations for PC_NSDP has been multiplied by 10^5 and 10^6 respectively

* p<0.01, ** p<0.05, *** p<0.1

All variables explained in Appendix A1

Table 21: Percentage Incorrect Knowledge OLS Regression Results for Males and Females (NFHS3)

Percentage Incorrect	MALES		FEMALES	
HIV/AIDS Answers	Coef.	Std. Err.	Coef.	Std. Err.
Access to Amenities				
NoAcc_DrinkWater	0.572*	0.178	0.579***	0.320
No Acc_Electricity	0.792*	0.253	1.9356*	0.461
No Acc_Fuel	3.326*	0.231	2.967*	0.399
Non Pucca House	0.632*	0.221	0.8785**	0.383
Not Own Radio	1.295*	0.169	2.0004*	0.308
Not Own Bicycle	-0.641*	0.158	0.4441	0.277
No Acc_toilet	1.186*	0.238	2.1599*	0.422
Demographic Variables				
Age	-0.223*	0.073	-0.2726***	0.143
Age Squared	0.004*	0.001	0.0051*	0.002
Illiterate	4.584*	0.197	8.6514*	0.331
Partner Lit/Edu	.	.	-1.945*	0.374
AP	0.888*	0.327	2.9049*	0.644
Assam	-0.321	0.427	-1.2722***	0.725
Gujarat	-0.468	0.564	-1.5997***	0.891
J&K	0.03	0.901	2.5908	1.808
Karnataka	1.774*	0.381	2.3674*	0.667
MP	-4.434*	0.532	-2.6338*	0.797
Maharashtra	-1.45*	0.418	1.3474**	0.600
Orissa	-0.07	0.640	1.517	1.016
Rajasthan	-2.228*	0.569	-1.1996	1.060
Tamil Nadu	3.675*	0.406	5.2183*	0.536
UP	0.795***	0.411	0.977	0.899
WB	3.014*	0.474	3.2068*	0.722
Rural	-0.102	0.208	-0.2215	0.352
No Listen Radio 1 wk	1.851*	0.161	2.7286*	0.303
Wealth_Poorest	0.488***	0.267	1.8014*	0.469
Hindu	1.585	1.190	-1.3141	2.095
Muslim	3.279*	1.212	-0.2408	2.152
Christian	-0.172	1.249	-2.2461	2.143
Sikh	2.756*	1.347	0.4048	2.416
Jain	-3.581*	1.587	-6.3524***	3.334
Buddhist	1.86	1.382	-0.0831	2.363
State Variables				
PC_NSDP	4.91†	3.5†	4.07	6.460
State_Lit_Rate	-0.047	0.031	0.0289	0.026
SC/ST	0.864*	0.183	0.9027*	0.316
Female Autonomy				
Say in Spend Money	-1.13*	0.171	-0.1457	0.457
Say in Large HHd purchase	-0.785*	0.186	-1.2376*	0.367
Say in Daily HHd purchase	-0.294***	0.170	-0.8777**	0.391
Final Say in Fem Own Health			-0.4609	0.349
Earn More than husband			0.1172	0.304
Health Variables				
Anemic	-0.357*	0.190	-0.8073*	0.268
Bmi< 18.5 LOW	1.088*	0.188	1.45*	0.334
BMI>24.9 HIGH	-1.258*	0.214	-1.6041*	0.358
Constant	30.707*	2.521	30.462*	3.479

Notes: All variables explained in Appendix A1

† PC_NSDP for males and females multiplied by 10^5

* p<0.01, ** p<0.05, *** p<0.1

Male Regression: Obs = 32358; F(40,32317) = 124.74

Female Regression: Obs = 11871; F(40,11827) = 105.82

Table 22: Multinomial Logits of Percentage Incorrect Knowledge for Males and Females (NFHS3)[1]

	Males						Females					
Percentage Answers	Upto 30 %		30 to 70 %		> 70 %		Upto 30 %		30 to 70 %		> 70 %	
Incorrect	Coeff	Std Err	Coeff	Std Err	Coeff	Std Err	Coeff	Std Err	Coeff	Std Err	Coeff	Std Err
Access to Amenities												
NoAcc_DrinkWater	0.1126*	0.035	0.1728*	0.043	0.0882	0.054	0.1773*	0.0620	0.4523*	0.0706	0.0863	0.0741
No Acc_Electricity	0.3776*	0.063	0.7127*	0.069	1.0815*	0.075	0.0962	0.1210	0.3399*	0.1249	0.8684*	0.1225
No Acc_Fuel	0.3211*	0.043	0.6041	0.056	0.968*	0.090	0.3426*	0.0751	0.6535*	0.0876	0.9564*	0.0979
Non Pucca House	-0.1506*	0.041	-0.1581	0.052	-0.1185***	0.069	-0.062	0.0712	-0.1446***	0.0822	-0.0548	0.0865
Not Own Radio	0.1764*	0.032	0.3836	0.042	0.3958*	0.058	0.2267*	0.0575	0.3649*	0.0680	0.4437*	0.0733
Not Own Bicycle	-0.0145	0.031	-0.0733***	0.040	0.0039	0.051	0.0912***	0.0537	0.1153***	0.0622	0.143**	0.0650
Illiterate Hhd head	0.8843*	0.060	1.6047*	0.064	2.7021*	0.069	0.9329*	0.0822	1.6624*	0.0859	2.6894*	0.0883
No Acc_toilet	0.1693*	0.046	0.3565*	0.055	0.5467*	0.071	0.2491*	0.0885	0.5276*	0.0952	0.6698*	0.0973
Demographic Variable												
Age	-0.0291**	0.015	-0.0191	0.018	-0.0278	0.023	-0.0165	0.0293	-0.0617***	0.0329	-0.1156*	0.0336
Age Squared	0.0005*	0.000	0.0006**	0.000	0.0011*	0.000	0.0004	0.0004	0.0012*	0.0005	0.0022*	0.0005
Rural	-0.014	0.040	0.144*	0.051	0.6539*	0.069	0.1831*	0.0681	0.1517***	0.0791	0.5293*	0.0844
No Listen Radio 1 wk	0.2331*	0.031	0.4742	0.040	0.9835*	0.053	0.1515*	0.0566	0.3091*	0.0671	1.0562*	0.0742
Partner Lit/Edu							-0.3174*	0.1017	-0.5305*	0.1046	-0.8326*	0.1033
Wealth_Poorest	0.1929*	0.062	0.3242	0.070	0.765*	0.081	0.243**	0.1249	0.4726*	0.1292	0.8768*	0.1288
Hindu	0.5679*	0.266	0.2071	0.310	-0.1351	0.333	0.7814**	0.4063	0.3663	0.4384	0.1638	0.4382
Muslim	0.8407*	0.270	0.6297**	0.315	0.2312	0.341	1.0003*	0.4184	0.7591***	0.4522	0.4452	0.4534
Christian	0.6774**	0.276	0.3092	0.326	-0.2364	0.361	0.8917**	0.4164	0.6147	0.4517	-0.2988	0.4598
Sikh	0.5135***	0.287	0.0115	0.344	0.2052	0.388	0.4826	0.4522	-0.0775	0.5024	0.0544	0.5029
Jain	0.2063	0.312	-0.9991***	0.527	-1.8735	1.234	0.2785	0.5534	-40.5096	3.22‡	-0.6301	1.1435
Buddhist	0.057	0.295	-0.2286	0.354	-0.6775	0.419	0.3119	0.4529	-0.482	0.5022	-0.7741	0.5166
PC_NSDP	1.67*†	3.54†	2.31*†	4.59†	-3.99*†	6.25†	1.28***†	7.03†	6.63*†	8.37†	8.63*†	9.61†
State_Lit_Rate	-0.0192*	0.003	-0.027*	0.004	-0.0049	0.006	0.0054	0.0039	-0.0055	0.0047	-0.068*	0.0059
SC/ST	0.0975**	0.038	0.1836*	0.047	0.3481*	0.057	0.1632*	0.0666	0.1872*	0.0742	0.3292*	0.0756
Female Autonomy												
Spend Money	-0.1968*	0.035	-0.3787*	0.043	-0.1728*	0.055	-0.2454*	0.1053	-0.4017*	0.1140	-0.4304*	0.1151
Large HHd purchase	-0.139*	0.037	-0.3359*	0.046	-0.3632*	0.060	-0.0935	0.0735	-0.1764**	0.0838	-0.2933*	0.0866
Daily HHd purchase	-0.1677*	0.032	-0.1161*	0.043	0.0222	0.054	-0.0797	0.0783	0.0023	0.0902	-0.1499	0.0923
Fem Own Health							-0.2185*	0.0723	-0.3118*	0.0815	-0.3943*	0.0837
Earn More than husband							0.0084	0.0577	0.1236***	0.0686	0.026	0.0714
Health Variables												
Anemic	0.0333	0.041	0.1899*	0.049	0.3757*	0.057	0.0552	0.0518	0.1951*	0.0605	0.2086*	0.0633
Bmi< 18.5 LOW	0.2245*	0.042	0.3143*	0.050	0.4915*	0.057	0.1017	0.0741	0.2263*	0.0804	0.4504*	0.0808
BMI>24.9 HIGH	-0.0314	0.037	-0.2302*	0.054	-0.6279*	0.101	-0.0077	0.0618	-0.236*	0.0796	-0.4856*	0.0959
Constant	1.2149*	0.432	0.0379	0.530	-3.3791*	0.646	-0.6177	0.6622	-1.2146***	0.7313	1.6171*	0.7466

Notes: State Dummies not reported

@ Levels of incorrect knowledge: 1 (upto 30% incorrect); 2(30 to 70% incorrect); 3(over 70% incorrect). 0 -(No Incorrect Answers is base case)

‡ Coefficient divided by 10^8

† Coefficient and Standard Deviations for PC_NSDP has been multiplied by 10^5 and 10^6 respectively

* p<0.01, ** p<0.05, *** p<0.1

[1] Marginal effects available upon request.

APPENDIX A1

Variable	Definition
	Questions in the Knowledge Index
1. Avoid AIDS by having no sex[2]	What are the ways for avoiding HIV/AIDS? This was a prompted question in NFHS-1 Can one avoid AIDS by having no sex? (NFHS-3) Correct answer - yes
2. Avoid AIDS by using Condom[2]	What are the ways for avoiding HIV/AIDS? This was a prompted question in NFHS-1 Can one avoid AIDS by using condom? (NFHS-3) Correct answer - yes
3. Avoid AIDS by having 1 partner only[2]	What are the ways for avoiding HIV/AIDS? This was a prompted question in NFHS-1 Can one avoid AIDS by having only one sex partner? (NFHS-3) Correct answer - yes
4. HIV by Mosquito bite	Can one avoid AIDS by avoiding mosquito bites? (NFHS-1 and NFHS-3). Correct answer - No.
5. HIV by sharing food with HIV person	Can one get HIV/AIDS by sharing food utensils with an HIV/Person? (NFHS-1). Can one get HIV/AIDS by sharing food with an HIV/Person? (NFHS-3). Correct answer - No.
6. Health person can have HIV	Can a healthy looking person have HIV/AIDS? (NFHS-1 and NFHS-3). Correct answer - yes
7. HIV can transmit MTC during Pregnancy	Can HIV/AIDS be transmitted from Mother to Child during pregnancy? (NFHS-1 and NFHS-3). Correct answer - yes
8. HIV postive teacher allowed to teach	Should a HIVpositive teacher be allowed to continue teaching? (NFHS-3). Correct answer - yes
9. Buy vegetables from HIV positive Shop Keeper	Would you buy vegetables from a shop keeper who has HIV/AIDS? (NFHS-3). Correct answer - yes
	Regression Analysis Variables
Access to Amenities Variables	
NoAcc_DrinkWater	1 if no access to drinking water on premise; 0 otherwise
No Acc_Electricity	1 if if access to kerosene, gas, oil or other ; 0 otherwise
No Acc_Fuel	1 if no access to clean cook fuel (i.e., fuel is wood, cow dung, coal, charcoal, other) 0 if access to clean fuel for cooking (kerosene, electricity, LPG, Biogas)
Non Pucca House	0 if pucca house; 1 otherwise
No Own Radio	1 if does not own radio; 0 if owns radio
No Own Bicycle	1 if does not own bicycle; 0 if owns bicycle
No Acc_toilet	1 if no access to toilet including pit toilet; 0 if access to some kind of toilet
Demographic Variables	
Age	Age of the Individual
Age Square	Square of individual's age
Illiterate	1 if illiterate head of household; 0 if literate (above primary educated)
No Listen Radio 1 wk	1 if does not listen to radio atleast once a week
Partner Lit/Edu	1 if partner can read and write
Wealth_Poorest	1 if wealth index in bottom two quintiles - ie., poorest or poorer
SC/ST	1 if belongs to SC/ST; 0 otherwise
State/Region Variables	
PC_NSDP	State's per capita NSDP - 1993 prices
State_Lit_Rate	State's literacy rates in 2000 census - gender specific
Rural	1 if rural areas; 0 if urban
Female Say/Autonomy Variables	
Fem Say: Spend Money	1 if female has say in spending money; 0 if she has no say
Fem Say: Large HHd purchase	1 if female has say in large household purchases; 0 if she has no say
Fem Say: Daily HHd purchase	1 if female has say in daily household purchases; 0 if she has no say
Final Say: Fem Own Health	1 if female has some say in her own health care decisions; 0 if she has no say
Female earns more than husband	1 if female earns more than husband; 0 is earns less than husband
Health Variables	
Anemic	1 if respondent is severe, moderate and mild anaemic; 0 if not anaemic
Bmi< 18.5 LOW	1 if BMI of individual is less than 18.5(underweight)
BMI>24.9 HIGH	1 if BMI of individual is above 24.9 (overweight and obese)
Beat Wife if Refuse Sex	1 if individual believes wife beating is justified if she refuses sex.
NFHS	1 if time period is NFHS1; 0 if time period is NFHS 3

Notes

1 States included in the analysis include Andhra Pradesh, Assam, Bihar, Gujarat, Delhi, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

2 Some HIV/AIDS knowledge questions were prompted questions. Two separate indexes was constructed for this analysis. For comparison of NFHS-1 and NFHS-3 the first 7 questions were included in the Index. For NFHS-3 analysis all nine questions were included.

APPENDIX A2

Table A2a: Percentage contribution of Incorrect Answers to Knowledge Deprivation – NFHS-3 (Rural Areas)

States	Value of α in I_α	Percentage Contribution to Global Index (I_α^H)								
		Avoid AIDS by having no sex	Avoid AIDS by using Condom	Avoid AIDS by having 1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy	HIV postive teacher allowed to teach	Buy vegetables from HIV positive Shop Keeper
AP	α=1	8.83	10.57	6.14	17.79	19.30	8.92	5.74	9.18	13.55
	α=3	3.60	6.18	1.21	29.50	37.70	3.72	0.99	4.05	13.04
Assam	α=1	7.92	9.01	7.21	20.17	22.40	7.62	4.57	9.66	11.45
	α=3	2.07	3.04	1.56	34.21	46.86	1.84	0.40	3.76	6.25
Bihar	α=1	8.67	8.95	5.08	21.54	20.22	9.84	7.64	7.58	10.49
	α=3	2.86	3.15	0.58	43.94	36.33	4.19	1.96	1.91	5.07
Gujarat	α=1	7.74	6.46	3.92	22.15	20.97	10.08	7.53	8.56	12.59
	α=3	1.86	1.08	0.24	43.54	36.94	4.11	1.71	2.52	8.00
J&K	α=1	4.93	10.13	4.39	18.49	18.15	9.40	4.93	13.23	16.35
	α=3	0.57	4.90	0.40	29.84	28.22	3.92	0.57	10.94	20.65
Karnataka	α=1	8.36	9.57	6.97	18.60	19.23	12.11	4.93	7.19	13.04
	α=3	2.95	4.42	1.70	32.44	35.87	8.96	0.60	1.87	11.19
Kerala	α=1	7.73	8.15	4.66	22.18	24.51	9.48	4.76	6.60	11.94
	α=3	1.55	1.83	0.34	36.74	49.60	2.87	0.36	0.97	5.74
MP	α=1	7.43	7.86	4.60	22.87	24.16	9.34	8.75	5.66	9.34
	α=3	1.39	1.64	0.33	40.49	47.74	2.76	2.27	0.61	2.76
Maharashtra	α=1	7.08	8.57	5.74	21.37	22.08	8.11	7.71	7.78	11.57
	α=3	1.44	2.54	0.77	39.50	43.57	2.16	1.85	1.91	6.26
Orissa	α=1	8.13	9.98	10.89	17.91	17.49	11.02	8.19	7.17	9.22
	α=3	3.17	5.86	7.62	33.88	31.55	7.90	3.24	2.17	4.62
Punjab	α=1	6.59	6.72	4.56	24.02	26.08	10.09	5.29	6.77	9.88
	α=3	0.83	0.87	0.27	39.89	51.08	2.96	0.43	0.89	2.77
Rajasthan	α=1	7.05	6.62	3.52	22.14	21.19	9.13	9.01	9.36	11.98
	α=3	1.39	1.16	0.17	43.29	37.92	3.04	2.91	3.27	6.85
TN	α=1	9.27	10.22	8.72	16.92	17.72	11.28	5.25	9.15	11.47
	α=3	4.75	6.35	3.95	28.87	33.13	8.54	0.86	4.57	8.98
UP	α=1	6.15	6.61	4.01	22.54	22.90	9.98	8.18	8.74	10.89
	α=3	0.85	1.05	0.23	41.59	43.58	3.61	1.99	2.42	4.69
WB	α=1	8.88	10.00	6.43	15.87	16.58	11.38	8.39	9.98	12.49
	α=3	4.52	6.45	1.71	25.75	29.34	9.49	3.80	6.40	12.54
All India	α=1	7.64	8.62	6.07	20.35	21.32	9.76	6.35	8.36	11.52
	α=3	1.96	2.82	0.98	37.10	42.62	4.09	1.13	2.57	6.73
SC/ST	α=1	8.21	9.26	6.66	18.57	19.53	9.94	6.63	9.07	12.14
	α=3	2.87	4.11	1.53	33.16	38.60	5.09	1.51	3.87	9.26
Nonscst	α=1	7.40	8.36	5.82	21.10	22.07	9.68	6.24	8.07	11.26
	α=3	1.66	2.39	0.81	38.47	43.98	3.71	0.99	2.15	5.85

Notes: See Appendix A1 for variable description.

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India would imply only the 15 states included in the analysis

c Coefficient of Variation in within states

d The SC/ST imply all the SC/ST across the 25 states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f Not heard of HIV is the proportion of respondents who said a No to the question

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h Percentage contribution to Chakravarty and Majumder (2005) Global Index I^α for α=1 and 3

Table A2b: Percentage contribution of Incorrect Answers to Knowledge Deprivation – NFHS-3 (Urban Areas)

States	Value of α in I_α	Percentage Contribution to Global Index (I_α^H)								
		Avoid AIDS by having no sex	Avoid AIDS by using Condom	Avoid AIDS by having 1 partner only	HIV by Mosquito bite	HIV by sharing food with HIV person	Health person can have HIV	HIV can transmit MTC during Pregnancy	HIV postive teacher allowed to teach	Buy vegetables from HIV positive Shop Keeper
AP	α=1	8.57	9.90	5.83	21.91	23.51	7.51	5.21	6.61	10.95
	α=3	2.29	3.53	0.72	38.30	47.28	1.54	0.51	1.05	4.77
Assam	α=1	6.49	6.85	5.70	25.76	28.45	6.23	3.81	7.35	9.36
	α=3	0.64	0.76	0.44	40.30	54.30	0.57	0.13	0.93	1.93
Bihar	α=1	7.22	8.02	4.39	26.20	26.52	7.21	7.22	5.53	7.68
	α=3	0.97	1.32	0.22	46.12	47.85	0.96	0.97	0.43	1.16
Gujarat	α=1	6.78	6.47	3.70	25.10	24.24	9.35	5.96	7.37	11.02
	α=3	0.93	0.81	0.15	47.27	42.57	2.44	0.63	1.20	4.00
J&K	α=1	3.97	6.25	2.24	25.18	27.76	8.33	6.18	8.92	11.18
	α=3	0.15	0.60	0.03	39.32	52.70	1.42	0.58	1.75	3.44
Karnataka	α=1	9.45	7.29	5.94	23.04	24.47	11.02	4.50	4.68	9.60
	α=3	2.74	1.26	0.68	39.80	47.65	4.35	0.30	0.33	2.88
Kerala	α=1	7.26	7.50	3.48	24.97	26.38	9.44	4.89	5.55	10.53
	α=3	1.03	1.14	0.11	42.01	49.51	2.27	0.31	0.46	3.15
MP	α=1	5.70	5.25	2.81	30.24	31.49	6.76	7.41	3.94	6.39
	α=3	0.31	0.24	0.04	45.87	51.82	0.51	0.68	0.10	0.43
Maharashtra	α=1	5.57	6.32	4.54	28.65	29.97	5.03	5.92	5.32	8.69
	α=3	0.33	0.48	0.18	45.13	51.68	0.24	0.40	0.29	1.26
Orissa	α=1	8.14	7.41	9.50	23.18	24.19	9.77	7.27	4.14	6.41
	α=3	1.79	1.35	2.85	41.41	47.10	3.10	1.28	0.24	0.88
Punjab	α=1	6.03	5.47	3.52	28.33	30.74	8.08	5.27	5.36	7.19
	α=3	0.41	0.31	0.08	42.58	54.38	0.99	0.27	0.29	0.70
Rajasthan	α=1	6.26	5.22	2.58	28.38	28.54	6.94	7.65	6.05	8.38
	α=3	0.51	0.30	0.04	47.50	48.35	0.70	0.93	0.46	1.22
TN	α=1	7.68	8.24	7.41	22.19	23.10	10.32	5.00	7.15	8.91
	α=3	1.68	2.07	1.51	40.52	45.71	4.07	0.46	1.35	2.62
UP	α=1	5.92	5.11	2.82	27.23	29.04	6.79	8.12	6.96	8.01
	α=3	0.44	0.29	0.05	43.19	52.40	0.67	1.14	0.72	1.10
WB	α=1	8.23	7.77	5.35	21.89	22.11	9.77	7.35	7.76	9.76
	α=3	2.21	1.86	0.61	41.63	42.87	3.70	1.58	1.85	3.69
All India	α=1	6.90	6.95	4.79	25.63	27.06	7.69	5.98	6.17	8.84
	α=3	0.84	0.86	0.28	43.16	50.78	1.16	0.55	0.60	1.77
SC/ST	α=1	7.16	7.40	5.23	24.06	25.50	8.32	6.26	6.69	9.37
	α=3	1.10	1.21	0.43	41.74	49.70	1.73	0.74	0.90	2.47
Nonscst	α=1	6.83	6.83	4.68	26.04	27.46	7.52	5.91	6.03	8.69
	α=3	0.78	0.79	0.25	43.47	51.00	1.05	0.51	0.54	1.62

Notes: See Appendix A1 for variable description.

a Assam includes Manipur, Meghalaya and Tripura; Punjab includes Haryana, Himachal Pradesh and Delhi; Uttar Pradesh includes Uttaranchal, Madhya Pradesh includes Chhattisgarh and Bihar includes Jharkhand

b All India would imply only the 15 states included in the analysis

c Coefficient of Variation in within states

d The SC/ST imply all the SC/ST across the 25 states

e Non SC/ST imply the OBC, General caste and the respondents who did not know their caste

f Not heard of HIV is the proportion of respondents who said a No to the question

g The propotion of people who responded incorrectly (in terms of the HIV transmission risk by the factor)

h Percentage contribution to Chakravarty and Majumder (2005) Global Index I^α for α=1 and 3