The Significance of Social Determinants of Health in Combating the Covid-19 Pandemic

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Abstract : *Our World is faced with a health emergency of an unprecedented magnitude, which is brought about by the outbreak of COVID-19 pandemic. The present crisis has completely caught the countries off-guard. The situation is more of concern for developing countries like India, with a vast population. The present precarious scenario calls for adopting overarching policies of health beyond the ones provided by the health care professionals. The authors dwell upon one such model of health which has been initiated long before but somehow not been seriously pursued that is the Social Determinants of Health Model (SDH). The authors have attempted to explain how socio-demographic status has a profound impact on health outcomes. The study is exploratory in nature and is based on secondary sources of data accessed from census of India. The article concludes by suggesting how the SDH (model) can help in leading a healthy and safe life by preventing the spread of Corona Virus.*

Keywords: *SDH; Covid-19; Hygiene; Health policy.*

I. Introduction

The present catastrophe which is unparalleled in the history of mankind, though there has been a pandemic like situation in the past, way back in 1918, just about when the First World War was at its fag end, the influenza outbreak across the globe has been cited as the most devastating epidemic in world history. In India the deadly influenza raised the mortality rate to 20.6/1000 people in comparison to 4.7/1000 people of Britain (Kapoor, 2020). This flu took lives of 17-18 million

Indians more than the overall casualties in World War I. Reason behind this kind of disaster for our country was probably due to poor health care infrastructure, undernourishment, unhygienic and ill ventilated dwellings (Biswas, 2020). Similarly, the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 also sent signals that it may lead to a pandemic, but it subsided and the world again slipped into complacency. The recent outbreak of corona virus (COVID-19) has affected the globe ruthlessly impacting 210 countries as a whole. On 30th January 2020, World Health Organization declared it as a Public Health Emergency of International Concern (WHO, 2020), so far 1.7 million people have been infected and almost 0.2 million people have died worldwide till date (Worldometers,2020). The worst sufferers are the countries of Europe and America, where the death toll has been very high. Looking at the Indian scenario, the situation is much more precarious than the neighbouring countries like Bangladesh, Nepal, Bhutan, Sri Lanka and Pakistan (Basu et.al, 2020), because of the vast population of the sub-continent. The present state of affairs calls upon to adopt wider, overarching health policies beyond the health care facilities provided by the health professionals. One such model of health which has been lying dormant or perhaps not pursued with all seriousness is the social determinants of health (SDH) model.The present study attempts to point out this often neglected some important indicators of social determinants of health, which can prove effective in preventing the spread of such contagious virus like corona.

I.1 Methods: This is a descriptive study based on secondary sources of data. The study is more of an exploratory in nature. Data has been collected from the Census of India 2011, National Health Profile etc.

II. Social Determinants of Health Model

The concept of Social Determinants of Health has been an integral part of health related discussions, for instance Samuel Preston in his article (Preston, 1975), while analysing the relationship between mortality and economic development, has pointed out that factor other than the National Income of the country plays a significant role in determining the health of a person,such factors are sanitation, health, insect control, maternal and child care are all components of SDH. With a view to promoting health and health related factors, the Commission on Social Determinants of Health (CSDH) was formed in 2005, though origins of it could be traced back to the year 1948, when WHO was constituted, it has been defined as conditions in which people are born, grow, work, live and age; hence it comprises both tangible and intangible sets of factors such as political, socio-

economic and cultural constructs; a whole gamut of aspects which are responsible for overall health of humans, not just medical treatment by health professionals. One of the prominent proponents of social determinants of health model is Gavin Mooney (2009), who has also accentuated the significance of factors other than health care in promoting health. He has called upon the active participation of the community in promoting health. Thus, health as an attribute is valued very high among communities and individuals across the world (Leeuw, 2016). But somewhere the social determinants of health (SDH) model got suppressed in the 1950's as the focus was on technology based approach towards treatment of diseases. Again there was a rise of community-based approach in the 1960s and early 1970s when the rural community workers of China, better known as "barefoot doctors", with their rural community approach started gaining grounds (Zhou, 2016). It was the inspiration drawn from the community approach to health, which led to the now famous clarion call of 'Health for all' by WHO with a focus on Primary and preventive health care instead of curative care. However the entire trend was reversed with the emergence of 'neoliberalism' in the west, when again there was a swing of priorities: following the 'Washington consensus' government started withdrawing from health sector and leaving it to the market forces (Solar and Irwin, 2010).

A renewed interest towards health policies took place when in 2010, WHO Adelaide Statement on 'Health in All Policies' (HiAP) (WHO, 2010) was declared which was supposed to set the trajectory for recognition at a global level for the need of a cross–sectoral action, under which health will be included in wider policies to get better health outcomes. HiAP was meant to be a policy strategy which aimed to target the key Social Determinants of Health. Thereafter, in 2015 another important development was the Declaration Oslo passed by General Medical Assembly (Angela et al. 2017), wherein the importance of social determinants of health and principles of action by the World Medical Association, National Medical Association and individual doctors was called for. Mention of Primary Health Care as an initial starting point to raise awareness about the social determinants of health was explicitly called for. Unfortunately, the world as a whole perhaps could not gauge the perils of neglecting broader aspects of health management. The uncertainty associated with health emergency on a global scale calls for a preparedness in terms of stronger measures to protect and safeguard the health and the interest of every one in general and particularly those living on the margins. Meanwhile, a number of studies have shown a subjective perception of individuals about their health conditions, which has been defined as multi dimensional concept which encompasses the physical,

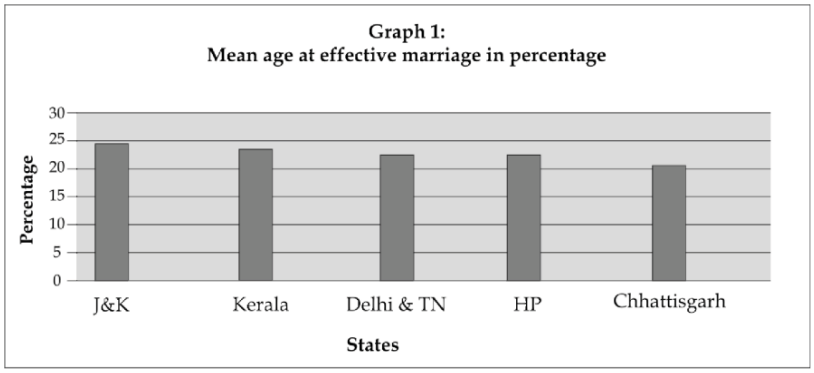
emotional and social components associated with an illness or treatment (Revicki, 1989). Therefore, Social Determinants of Health could be used as a beneficial indicator to indicate the health status of a population as well as to reflect upon the performance of health system.

There are evidence of success in applying the SDH models in addressing specific Social Determinants of Health, for instance a study in Bangladesh, where a three pronged strategy was adopted successfully to prevent unsafe abortion under the Menstrual Regulation programme (MR) (Erik Blas et.al, 2011). Similarly a case study in Chile proved successful in addressing the non-communicable diseases by fruit and vegetable consumption through public-private partnership. A study on Lumajang district of Indonesia was conducted to address the Social Determinants of Health through community approach. In some other countries like Iran, Pakistan SDH approach was adopted to treat malnutrition, (Erik Blas et.al, 2011)

For developing countries like India, it is time to wake up and take serious measures. Socio- economic and demographic status is inextricably linked with health as is evident from a brief analysis of socio-economic and demographic indicators and resultant impact on health outcomes in India. Following is the discussion on certain socio-demographic indicators, which have been chosen and which indirectly impacts health.

II.(a) Literacy Rate: Education and health are the two most important requisites of human capital, having positive relationship (Groot, 2006). Primary education and women's education promotes a reduction of mortality rates in rural areas Though there has been an improvement in the literacy rate across India, still disparity exists between states and union territories. Whereas Kerala and Mizoram are well above national average (74.04%), the state of Bihar lags with a dismal rate of 61.8% (Census of India, 2011). In Bihar, nearly 58% children and two/third of women in the childbearing age are malnourished. The high rate of malnutrition in Bihar can be attributed to several factors which may include the lower female literacy rate: additionally having meagre awareness among women about RTI/STI and HIV/AIDS coupled with poor literacy rate and lack of formal education (Kumar and Raj, 2013). On the other hand, Kerala's focus on education and healthcare has made it the socially most advanced state. Kerala state has achieved high physical quality of life even when it was having a low per capita income and low agricultural and industrial production, have been reformulated and presented as the paradox of Kerala Model of Development. (George, 1999; Tharamangalam, 1998).

II. (b) Mean Age at effective Marriage: Marriage and kinship patterns affect both men's and women's lives. As a vast number of sociological and anthropological studies attest, marriage and kinship practices in India vary tremendously between regions, social classes, and communities. At the national level, the mean age at effective marriage for female in the year 2016 is 22.2 years and varies from 21.7 years in rural areas to 23.1 years in urban areas. The mean age of marriage of females has been growing all over India; even then 61% of women that is 69% hailing from rural areas and 31% from urban areas are married before they attain 16 years of age. Highest mean age at effective marriage is found in J & K (24.7 years)(Graph 1), next is the state of Kerala at 23.1 years. Chhattisgarh has the lowest effective mean age at marriage at 20.3years (Census of India, 2011). Women in poor and less educated households often marry around the age of 16 years, but even women from better off and more educated households marry around the age of 19–20 years. The average age at marriage is 19.3 years in metropolitan cities and is considerably lower in less developed villages. In Bihar and Rajasthan, the states with the earliest age at marriage, around 25 percent of the girls had not attained puberty at the time of marriage. Nowadays, public health researchers focus on *early age at childbirth* as the key event in women's lives leading to multiple adverse maternal and child health outcomes from which are partly attributed to young married women having lower access to contraception, ante-natal care, and delivery by skilled health care workers or in health care facilities (Godha et al. 2013).



Source: Census of India 2011

II. (c) Access to safe treated drinking water (piped water into dwelling): The contaminated water can transmit diseases like diarrhoea, cholera, dysentery,

typhoid and polio. Contaminated drinking water is estimated to cause 485000 diarrhoeal deaths each year in the world. Absent, inadequate or inappropriately managed water and sanitation services exposed individuals to preventable health risk. According to National Sample Survey Report No. 584 (NSO, 2019), only 21.4% of households in India are able to get safe piped water direct into their dwellings, the states which covers the largest number of households is Chandigarh(81.6%), Goa (74.2%), Delhi (63%) Fig. 1, whereas states with lowest number of households below 10% are Assam (5.3%), Jharkhand (6.9%), Manipur (5.8%), Tripura (6.4%), Daman & Diu(9.4%), Bihar (2.9%), Odisha (7.6%) Fig. 2 .Limited access to safe drinking water, lack of proper toilet facilities, poor sanitation in rural India can lead to under nutrition, water borne diseases; gastro-enteropathy along with diarrhoea and dysentery but these communicable diseases can be effectively managed by improving the sanitation, hygiene and water usage practices. The poor sanitation and drainage contributes significantly to the spread of communicable diseases and may increase the likelihood of contracting worm infection from soil contaminated by faeces (WHO, 1998).

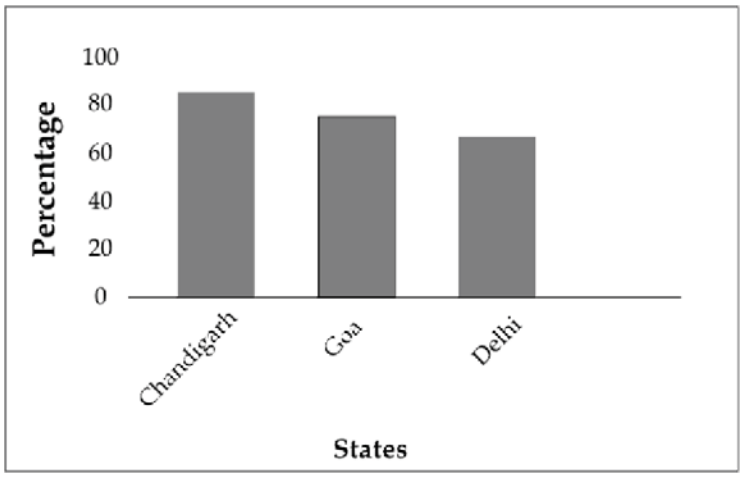


Figure1: States with largest numbers of HHs with Piped Water
Source: NSS Report NO. 584, NSO 2019

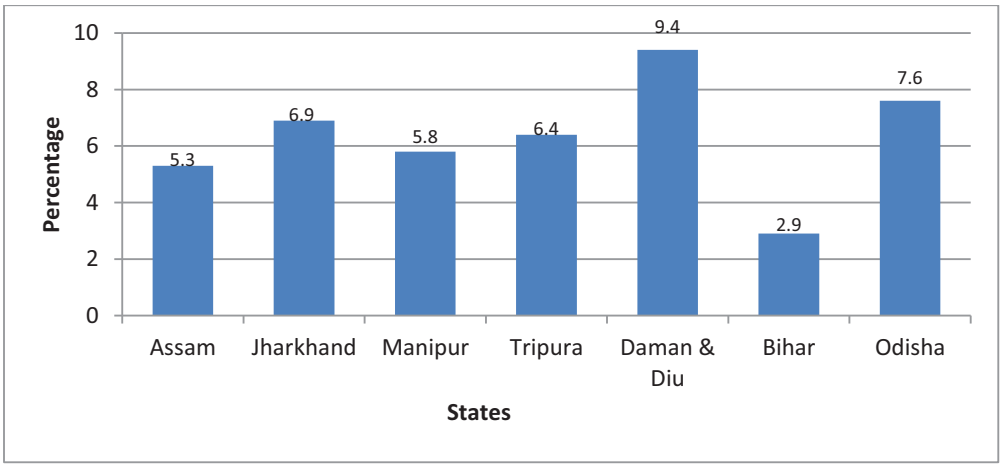


Figure2: States with lowest numbers of HHs (below 10 %) with Piped Water
Source: NSS Report NO. 584, NSO 2019

II. (d) Access to bathrooms and Latrines for exclusive use of Household: At the national level only 58.7% of the households are privileged to use bathrooms exclusively for themselves. Kerala (94.6%) and Mizoram (96.5%) are the states with a high percentage of households having exclusive access to bathrooms (Fig. 3), whereas on the other hand states where a little above 20% households have exclusive rights over bathrooms are Odisha (21.9%), Uttar Pradesh (37.8%), West Bengal (36.3%), Madhya Pradesh (54.9%). At the other end of spectrum are states like75.2% households in Tripura, 70% of households in Odisha and 66.6% of households in Jharkhand and 54. 2% households in Bihar have no bathrooms at all (Fig. 4) as per NSS Report no.584 (NSO, 2019). Looked at the national India level 31.5% households have no bathrooms at all. In terms of exclusive access to latrines, 68.1 % have the privilege; looked at state wise distribution, the state that has the lowest percentage of households is Odisha (45%) followed by Daman & Diu (51.5%), Uttar Pradesh (52.9). On the other hand, the state of Mizoram has the highest percentage of households (99.5%) that have latrines for their exclusive use(Fig.5), followed by Kerala (95.6%).Whereas 20.2% of households all over India have no latrine at all, amongst which 32.8%households in Bihar, 33.6% in Jharkhand, 45.1% in Odisha have no access to latrine what so ever (Fig. 6), thus the remaining 10% either defecate in the open or use the common, pay and use latrines. In India, Water, Sanitation, and Hygiene (WASH) are matters of grave concern, particularly in urban areas. Improper WASH conditions have a direct

bearing in giving rise to and thereby aggravating infectious diseases. Several studies have established the links between WASH conditions and spread of diseases (Das and Das, 2015; Coffey et al. 2014). Particularly, in the densely populated slum of Dharavi (largest slum of Asia), which presents a conspicuous example of poor sanitation, now stands exposed to the deadly covid-19. Dharavi is one of the most densely populated areas of Mumbai, where anywhere between 20 to 50 families share a common toilet and one tap water (Munshi, 2020). The UN-Habitat has clearly stated that the pandemic will hit the informal settlements the hardest, as these areas lack in basic services, sanitation and health facilities (UN-Habitat for a better Urban Future, 2020).

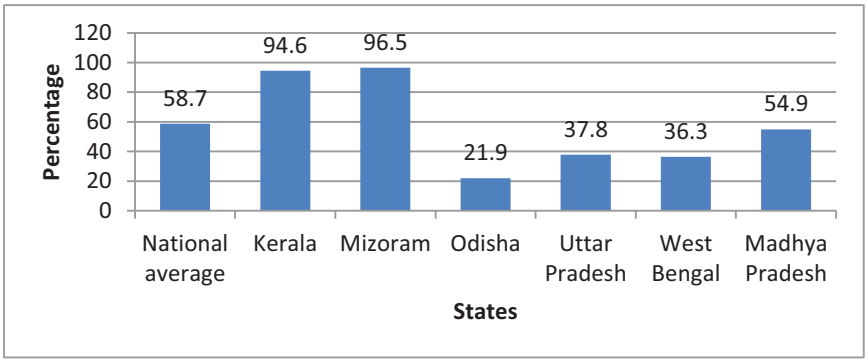


Figure 3: States with percentage of household using bathrooms exclusively for themselves as per NSS Report no. 584 (NSO, 2019)

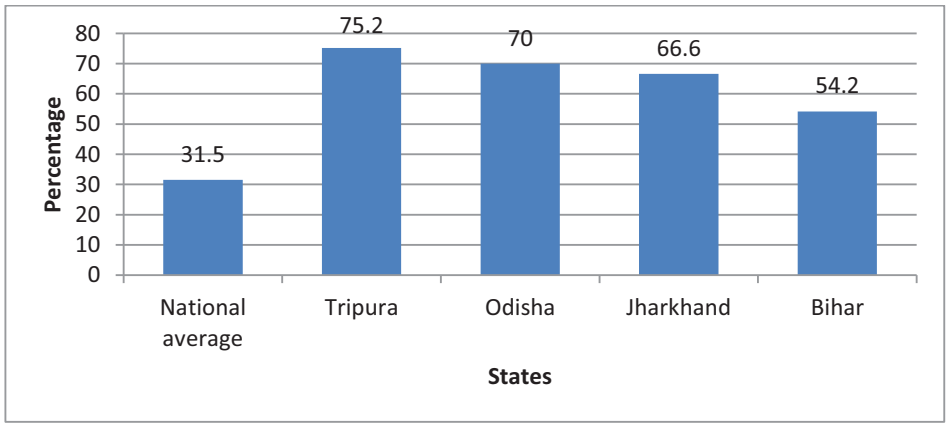


Figure 4: States with percentage of household having no bathrooms as per NSS Report no. 584 (NSO, 2019)

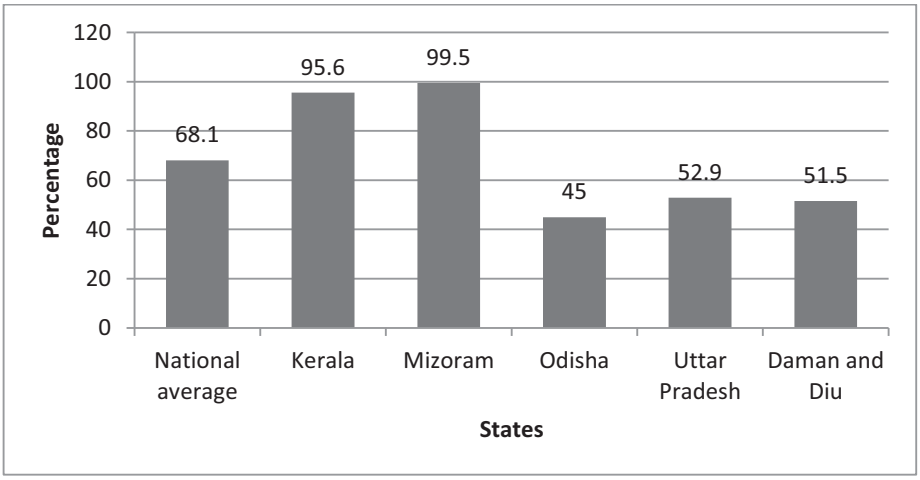


Figure 5: States with percentage of household using latrines exclusively for themselves as per NSS Report no. 584 (NSO, 2019)

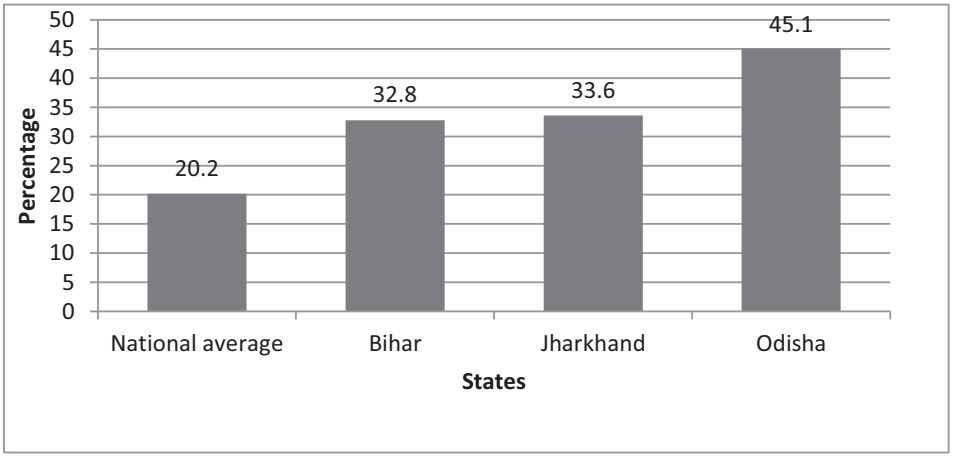


Figure 6: States with percentage of household having no latrines as per NSS Report no. 584 (NSO, 2019)

II. (e) Washing of Hands before Meals: In terms of percentage of households practicing washing of hands with soap/detergent before meals at an all India level is 35.8% only. Himachal Pradesh has recorded the highest percentage of

people who are particular about sanitation where 86% households (combined urban and rural areas) wash hands with soap or detergent followed by Chandigarh (81%). On the other hand states like Jharkhand, Bihar, Odisha less than 20% households practise hand washing with soap before meals. As per the World Bank estimates, in 2014, 24% of India's population resides in slums. The average density of urban population is 3977person per square kilometre, which can be compared to the local population density of Wuhan which has a density of 4400 person per square kilometre, therefore it becomes even more pertinent to provide safe drinking water and maintain proper sanitation in order to prevent the spread of contagious disease.

II. (f) Type of Dwellings: The type of house is considered as an index of economic status of the Households. As per the NSS Report No.584 (NSO, 2019),on an average 83.3% of households in India live in Pucca houses, with maximum percentage of such households found in states of Delhi (97.6%)and Uttarakhand (95.9%), all most all states of India have succeeded in building above 50% of Pucca houses except for Manipur where only 37% households are found to be living in Pucca houses. In an earlier report by National Nutrition Monitoring Bureau (NNMB, 2006) had shown that a majority of households in rural India lived in Semi-pucca houses (62%), followed by Kutcha (22.3%) and Pucca (15.8%). In addition to that the report also stated that the child and adult undernourishment was found to be significantly associated with type of house.

II. (g) Drainage System: Hygiene is one of the main social determinants of good health, and one of the contributing factors is the system of drainage that a household is equipped with. The NSS Report No. 584 (NSO, 2019), reveals that only 26.7% of households in India (rural and urban) have an underground drainage system out of which 98.3% households , highest among the states are to be found in the union territory of Chandigarh followed by Goa (65.4%) and the least in Assam and group of N-E states between 1.7 to 2%.

III. People below Poverty Line

According to RBI around 22% of the people are living below poverty line in India, out of which 25.7% of rural people and 13.7% of urban people are living below poverty line, the worst states with more number of people living below the poverty line are Jharkhand, Chhatisgarh (Samrat Sharma, 2019).

IV. Access to health care in India

The percentage of GDP devoted to public expenditure on health has increased marginally from 1.12 % in 2009-10 to 1.28% in 2017-18(Budget Estimate) as per National Health Profile 2019 data (CBHI, 2019). Expressed nominally in terms of per capita expenditure on health by the government has increased from Rs. 621/- in 2009-10 to Rs. 1657/- in 2017-18. Assam and the eight socio-economically empowered action group of states (EAG) recorded the lowest average per capita public expenditure on health during 2015-16, such states are Jharkhand, Bihar, Chhatisgarh, Madhya Pradesh, Uttar Pradesh, Uttarakhand, Rajasthan, Odisha. Among the larger states (former) J&K spent 2.46 % of Gross state domestic product (GSDP).

Table 1. Per Capita Expenditure on Health

Sl. No.	Year	Per Capita Expenditure	% age of GDP
1.	2009-10	621	1.12
2.	2010-11	701	1.07
3.	2011-12	802	1.1
4.	2012-13	890	1.09
5.	2013-14	913	1.00
6.	2014-15	973	0.98
7.	2015-16	1112	1.02
8.	2016-17	1397	1.17
9.	2017-18	1657	1.28

Source: Health Ministry via National Health Profile (NHP) 2019

The National Health Profile (NHP) 2019 observes that there has been a change in disease profile in India, with a shift from communicable to non communicable pattern in diseases. This definitely points to the fact that there has to be a paradigm shift in health care which should have involvement of a community level intervention, generating awareness among the masses about the need to change their life styles, consumption patterns and focus more on healthy habits and sanitation in view of the pandemic. The states more vulnerable to communicable diseases are the ones which are low in socio economic indicators of living; Chhattisgarh is one such state which reported the maximum number of cases of Malaria and deaths due to malaria (26) in 2016. The states that recorded the highest Birth rate in 2017 were Bihar (26.4) and the highest death rate was registered by Chhattisgarh (7.5). Among the positive indicators of health, Kerala recorded the lowest birth rate of 14.2 whereas J & K had the lowest death rate of 4.8 deaths per 1000 population per year.

V. The Way Ahead

Given the health emergency that the world is battling now due to the outbreak of COVID-19, there are probably two ways of handling it – one is through medication, about which extensive researches are going on and no such medicine/vaccine has yet been invented, though there is a likelihood of an effective breakthrough in the near future. The other way is non – medicinal intervention of combating the pandemic at the individual as well as at the community level. At the individual level, one has to bring about changes in the environment in which a person lives, according highest importance to maintaining hygiene, which includes besides washing hands, every now and then, the importance of social determinants of health assumes greater significance.

V. (i) Formation of Community Health Workers: In a country where the percentage of households not accustomed to washing their hands even before a meal, there is a pressing need to generate / create an awareness amongst the masses right from the village households ; that is a bottom up approach, to the crowded dwellings in urban areas: A pool of community health workers need to be created and trained in order to pass on to the masses, the simple yet often neglected nuances of a healthy and safe lifestyle which includes besides others, wearing of masks etc.

V. (ii) Dress Code: Wearing of mask should become a part of dress code while stepping out of our homes. Post pandemic the world and particularly India has to prepare itself to the now often used term "the new normal" else we as a nation may lag behind and have to pay a much higher price than what we are facing today.

V. (iii) WASH Programme: Nongovernmental agencies (NGOs) can be engaged in implementing the water, sanitation and hygiene programme extensively, in order to prevent the spread of communicable disease. Though, initiatives have been undertaken by government under Swacch Bharat Abhiyan, and corporate sector has also been engaged in implementing WASH under corporate social responsibility (CSR) at the village level, yet what is required is a targeted intervention across urban and rural areas, on a continuing basis, with a follow up action.

V. (iv) Behavioural Changes: In order to bring out behavioural changes among the masses regarding health and hygiene, it is pertinent that the awareness be

conducted on a continuing basis and not once a while; one of the ways is to make it a part of school curriculum, so that young minds can imbibe healthy habits and help build a healthy society.

Secondly, collectively we all need to learn to behave as responsible citizens, which includes minimising social gatherings and in the event of such gatherings being inevitable, at least learn to maintain hygiene by wearing masks and maintaining a certain amount of distancing. Around one third of India's population resides in slums, where proper infrastructural facilities are grossly lacking in overcrowded slums of urban India.

Universal health coverage is still a distant dream in a country like India, it is time that we step up efforts to adopt a new paradigm shift in health care. We have to learn to live with the virus called "corona" just as other diseases such as Dengue, Malaria, for which though cure exists, but if neglected could turn fatal. Self-care is the best form of care, a conscious effort on the part of each individual. A rigorous implementation of the SDH model with its varying components is the way ahead to a healthy living and also as a preventive measure against communicable diseases.

References

Angela, D. and Goldblatt, P. and Allen, J. and Nathanson, V. and Marmot, M. 2017. Global action on the social determinants of Health. *BMJ Global Health* 3:e000603.

Basu, D. and Srivastava, P. 2020. India's Covid Trajectory should be measured against that of its Neighbours. Retrieved from: https://indianexpress.com/article/opinion/columns/india-coronavirus-curve-health-ministry-india-neighbouring-countries-covid-19-pandemic

Biswas, S. (2020; 18 March). Coronavirus: What India can learn from the deadly 1918 flu.*BBC News*. Retrieved from: https://www.bbc.com/news/world-asia-india-51904019 (accessed on 25.04.2020 at 11.30 am)

Census of India. 2011. Registrar General India, National Health Profile, 2019 and 2015, Central Bureau of Health Intelligence, Ministry of statistics and programme Implementation, Govt. of India, National Statistical Office. New Delhi.

Coffey, D. and Gupta, A. and Hathi, P. and Khurana, N. and Srivastav, N. and Vyas, S. and Spears, D. 2014. Open defecation: evidence from a new survey in rural north India. *Economic & Political Weekly* 49(38): 43-55.

Das, A. and Das, B. 2015. Does sanitation affect health outcomes? Evidence from India. Retrieved from https://mpra.ub.uni-muenchen.de/63760/ (accessed on 22.04.2020 at 9.30 pm)

Erik Blas et.al. 2011. Social determinants approach to public health: from concept to practise. WHO

George, K. K. 1999. *Limits to Kerala model of development: an analysis of fiscal crisis and its implications*. Thiruvanatnhapuram, India: Centre for Development Studies.

Godha, D. and Hotchkiss, D. and Gage. A. 2013. Association between child marriage and reproductive health outcomes and service utilization: a multi-country study from south Asia. *The Journal of Adolescent Health* 52(5):552–8.

Groot, W, HenriëtteMaassen van den Brink. 2006. What Does Education Do To Our Health? Retrieved from :https://www.oecd.org/education/innovation-education/37425763.pdf

Kapoor, A. (2020; 3 April). An unwanted shipment: The Indian experience of the 1918 Spanish flu. *The Economic Times*. Retrieved from: https://economictimes.indiatimes.com/news/politics-and-nation/an-unwanted-shipment-the-indian-experience-of-the-1918-spanish-flu/articleshow/74963051.cms (accessed on 25.04.2020 at 11.50 am)

Key Findings of National Health Profile 2019 Published by CBHI. Retrieved from: https://www.jatinverma.org/key-findings-observed-by-national-health-profile-2019-published-by-cbhi , 6th Jan., 2020

Kumar, M. and Raj, A. 2013. 'Development in Bihar: Predicaments and Prospects of Health Indices'. *Journal of Health Management* 15(3): 415–30.

Leeuw, de E. 2016. We Need Action on Social Determinants of Health- but Do We want it, too? *International Journal of Health Policy and Management* 5(6): 379–82.

Mooney, G. H. 2009. *Challenging Health Economics*. Oxford: Oxford University Press.

Munshi, S. (2020; 22 April). Common Toilet, Cramped Lanes: Dharavi Architect on Problems in Containing Coronavirus in High-density Slums. *News18.com*. Retrieved from:https://www.news18.com/news/india/common-toilet-crawl-space-lanes-dharavi-architect-on-problems-in-containing-coronavirus-in-high-density-slums-2587519.html (accessed on 28.04.2020 at 7.30 pm)

National Nutrition Monitoring Bureau. (2006). Diet & Nutritional Status of Population and Prevalence of Hypertension among Adults in rural Areas. NNMB Technical Report no. 24. National Institute of Nutrition, Hyderabad: Indian Council of Medical Research.

Preston, S. 1975. The changing relation between mortality and level of economic development. *Population Studies* 29 (2): 231-48.

Revicki, D. A. 1989. 'Health-related quality of life in the evaluation of medical therapy for chronic illness'. *Journal of Family Practice* 29(4):377–80.

Sharma, Samrat. (2019; 21 Sept.) Around 22% Indians Live below Poverty Line; Chhattisgarh, Jharkhand Fare Worst. Retrieved from:

https://www.financialexpress.com/economy/around-22-indians-live-below-poverty-line-chattisgarh-jharkhand-fare-worst/1713365/

Solar, O. and Irwin, A. 2010. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice). *World Health Organization*. Geneva.

Tharamangalam, J. 1998. 'The Perils of Social Development without Economic Growth: The Development Debacle of Kerala, India'. *Bulletin of Concerned Asian Scholars* 30(1): 23-34.

The National Statistical Office. (2019; 23 November). NSS Report No.584: Drinking Water, Sanitation, Hygiene and Housing Conditions in India, NSS 76th Round, July-Dec.2018. Ministry of Statistics and Programme Implementation, National Statistics Office: New Delhi.

UN Habitat for a better urban Future.UN- Habitat Covid 19 Key Messages. Retrieved from:
https://unhabitat.org/sites/default/files/2020/03/covid19_key_messages_eng_1.pdf (accessed on 28.04.2020 at 9.30 pm)

Williams, A. 2012. Primeval health economics in Britain: A personal retrospect of the pre-HESG period. *Health Economics* 1998, 7(S1): s3-s8.

World Health Organization. 1998. Problems Caused by poor drainage, Retrieved from:https://www.who.int/water_sanitation_health/hygiene/settings/hvchap5.pdf?ua=1

World Health Organization. 2010. Adelaide statement on health in all policies: moving towards a shared governance for health and well-being. Adelaide, South Australia.

World Health Organization. 2020. Rolling updates on corona virus disease (COVID-19). Retrieved from : https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen (accessed on 25.04.2020 at 10.30 pm)

World meters. 2020. Covid-19 Coronavirus Pandemic. Retrieved from: https://www.worldometers.info/coronavirus/ (April 24.04. 2020, 11.04 am)

Zhou, X. 2016. 'Reconsidering the Barefoot Doctor Programme'. *Fudan Journal of Humanities and Social Sciences* 9: 41–63.

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