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Health and Population: Perspectives and Issues

राष्ट्रीय स्वास्थ्य एवं परिवार कल्याण संस्थान
स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार के अंतर्गत एक स्वायत्तशासी निकाय
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Health and Population: Perspectives and Issues

राष्ट्रीय स्वास्थ्य एवं परिवार कल्याण संस्थान

स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार के अंतर्गत एक स्वायत्तशासी निकाय

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HEALTH AND POPULATION: PERPECTIVES AND ISSUES
(INCORPORATING NIHAE BULLETIN (EST.1968) AND THE JOURNAL OF POPULATION RESEARCH (ESTD. 1974))

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Editorial

The COVID-19 Situation in India: What's Hogging the Spotlight and What's Lost in the Shadow?

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India has been among the top three worst COVID-19 affected countries in the world for some weeks now, and currently contributing the highest number of deaths. As the country enters Unlock 4, the last few days of August 2020 have witnessed an unprecedented surge in daily cases. By the end of August, India has become number-1 in the world with the highest single day spike of 80,000 cases. According to wordometers.info, the daily number of cases on 10 September 2020 stands at 96,760. While Brazil and the USA seem to have been over the hump, the epidemic curve in India is in a rising phase. What's particularly worrying: more than half the cases recorded in August were from 584 districts those are classified as 'mostly rural' or 'entirely rural'. This marks the awaited but ominous shift from the earlier urban hotspots to the Indian hinterland which is marked by inadequate public health infrastructure including clinical care, even at the district-town level.

One modeling exercise assumed an incubation period of five days and an infectious period of three days as the most favourable values, and forecasted the flattening of the curve around 10 September (182 days from the onset, assuming the onset to be 14 March). The caveat: an increase in effective reproduction ratio if containment measures are not obeyed and community transmission continues in which case the peak was forecasted around mid-December[1]. Rt (the virus' actual transmission rate at a given time, t) gives policymakers an up-do-date snapshot of the current state of the epidemic. The Rt value (at the national level) has been climbing up in the last few days after demonstrating a decline.

It has been argued that India's cases though the third highest in the world (at the time of writing)- 2,561 cases per million population, is ranked 90th in the list of 205 countries which are being tracked[2]. This needs to be tempered against the worrying number of 29,234 tests per million with a rank of 118. Most of the south Asian neighbours have similarly low testing levels. Another comforting figure is the metric of deaths (46) per million population with a rank of 83. Again this is true for south Asian neighbours as well, and attributed to the younger demographics. A recent analysis accounts for age-specific dispersion using age-specific fatality rates from 14 countries; coupled with India's distribution of COVID-19 cases to "predict" what India's case fatality rate (CFR) would be with those age-specific rates. In most of the cases, those predictions are lower than India's actual performance, suggesting that India's CFR is too high rather than too low. They also caution that rapid growth in the number of cases will tend to depress the case-fatality rates if contemporaneous statistics of deaths and cases are employed in computing those rates[3]. Debates around CFR call for deep-dive analysis and greater introspection on how data is shared and presented.

It is commendable that all the states have made herculean efforts to ramp up clinical care and introduced a range of innovations, some more effective than others. It is equally true for the field operations and effective deployment of frontline healthcare staff and voluntary efforts[4,5]. It is also the unfortunate reality that more than 87,000 infections and 573 deaths have been reported from amongst the healthcare workers. About three-fourth of these are from six states: Maharashtra, Karnataka, Tamil Nadu, Delhi, West Bengal and Gujarat; states with relatively more robust health service systems.

Moving beyond the clinical/medical paradigm, the pandemic has unleashed a human development crisis. The impact in low-income settings is likely to be more severe due to a combination of higher probability of working in essential/frontline jobs, loss of family income and limited healthcare capacity. Within these settings, however, unfair or avoidable differences in health among different groups exist in the society– health inequities: that some groups are particularly at risk from the negative direct and indirect consequences of COVID-19. The structural determinants of these are often reflected in differences by income strata, with the poorest populations having limited access to preventative measures such as hand-washing. Their more fragile socio-economic status also means that they are more likely to be living in habitats as well as employed in occupations that are not amenable to social distancing measures, thereby further reducing their ability to protect themselves from the infection[6]. These issues merit a serious analysis given the magnitude, diversities and vulnerabilities of Indian populations. Both national and state governments need to review COVID-19 responses, using the equity lens, across at least three dimensions: (i) whether and in what manner strategies were designed for and targeted towards disadvantaged populations; (ii) whether closing health gaps widened between worse-off and better-off groups; and (iii) whether social participation and empowerment was enabled.

Finally, has enough been done for risk communication and community engagement? The epidemiology of the disease had pointed early on to the critical importance of behavioural issues and risky practices. The WHO cautions that risk communication used to be viewed primarily as the dissemination of information to the public about health risks and how to change behaviour to mitigate those risks. The approach has "evolved dramatically as social science evidence, new communication and media technologies, and practices have evolved in the 21st century." In the current understanding and practice, risk communication includes the "range of communication capacities required through the preparedness, response and recovery phases . . . to encourage informed decision making, positive behavioural change and the maintenance of trust[7]". The inability to effectively communicate beyond staid top-down advisories has been possibly the weakest link in India's response. Experts both within and outside the government attributed 500,000 cases in the last week of August in part to "complacency among people towards following COVID-appropriate behaviour[8]". As the economy and social interactions increasingly open up, this big gap may haunt us, a lot more painfully than envisaged at this point.

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Custom, Crime, and COVID-19: A Gender Perspective

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Abstract

This paper aims at raising awareness on how and why gender matters in COVID-19 response. With women working as prime caregivers and frontline responders, they are making critical contributions to address the increased psychological and financial domestic load caused due to the outbreak every day. Additionally, they are likely to bear a higher risk of health, economic cost coupled with a rising incidence of domestic violence. The information draws on the existing research and gender statistics to highlight the different realities that women could be facing in the light of this pandemic. It also puts forward the cultural and societal construct of gender in the socializing process. The paper suggests that implication of this pandemic is not only limited to health impacts but is deepening the pre-existing inequalities. The shadow of the pandemic can be seen in the spike of domestic violence cases as women are sheltering-in-place with their abusers. The ability to respond to COVID-19 with a gender lens, therefore, is important so that the inequalities and challenges that women face are addressed. This paper recommends collaborative efforts of the government and community to address the structural imbalance resulting in interpersonal violence and wellbeing of women.

***Key words**: Gender, Domestic violence, Custom, Crime, Mores, COVID-19.*

Introduction

One of the public health preventive measures to control the infection from spreading the ongoing pandemic of COVID-19 is "Stay Home Stay Safe". The family, as an institution, is usually portrayed as a primary unit of care and cure. However, her role as a homemaker doesn't change before or after a crisis. Moreover, the continued pandemic lockdown overburdens women with the rise of familial expectations and poses different challenges to women. This is over and above the everyday things that women used to witness prior to COVID-19. 'Domestic sphere has continued to be the site of the production and reproduction of patriarchal ethos and experiences and is marked by the manifestation of power, dominance,violence, and reproduction of patriarchy as channelized through the practice of child-rearing and marriage'[1]. Traditionally, women were expected to do household chores and men enjoyed prominent social, political, and economic roles. Women's sole purpose in life is to serve her family. Due to lack of financial return of her domestic work; in a patriarchal society, women's roles were valued less than those of men[2]. The role of women is constantly defined by the society with the changing roles over time. Despite women occupying multiple roles, the social construct consciously or unconsciously is done by the males. India is a multi-cultural

society, and defining women as one single cultural universe of crime and custom won't be appropriate. The paper identifies the pattern of social learning by which women are made to live with violence irrespective of time and space. Although, biologically determined differences between male and female are universal, socially constructed differences are learned[3].

The historic and cultural background in India is based on a male-dominant structure. This dominant role of men is present on the individual, family, community, and national levels. Traditionally, males were indeed in the decision-making roles supported a patriarchal system. Wives tended to be socially and economically dependent on husbands. Several factors are identified that maintain an authoritarian, male-dominated system. These factors include the payment of bride-price and participation in the labour force. This fails to take into account the contribution that women make in the social and economic front of the society. Men expect their wives to fulfill a traditional sex-role. Traditional values continue to shape the style of relating between men and women, despite the modernization that has taken place. "Higher socio-economic development does not necessarily imply the automatic acquisition of modern values." In keeping with the cultural practices of the society, male attitudes and values strongly influence family norms, values and practices that subjugate women which are more prevalent and are deeply rooted. According to Ellen, 'a logical outcome of relationships of dominance and inequality- relationships shaped not simply by the personal choices or desires of some men to dominate their wives but by how we, as a society, construct social and economic relationships between men and women and within marriage and families[4]'.

The continuation of cultural customs and gender inequality adjoined to the reason for the crime against women. As a result, male dominates culture and creates a life cycle of discrimination against women. The culture of silence further puts women to suffer in most of the areas of existence including health. Often women struggle with abuse. It can range anywhere from one-off instances of physical violence or streams of insults and remarks classified as psychological abuse. The period duration or the form and severity of violence do not matter as much as its incidence does. Violence is not barred and excluded from the rich or affluent households or well-educated homes. The protective parameters stand to decrease the risk but cannot deny its occurrence. Extension of the COVID-19 lockdown has caused unprecedented situations within the home between men and women.

Domestic Violence during the Current COVID-19 Crisis

During the pandemics, a frequently overlooked fact is the surge in Domestic Violence (DV) which presents serious socially damaging outcomes[5]. The COVID-19 crisis ruptured all the protective parameters such as women's economic independence, quality of the marital relationship, and risk factors like the younger age of women, homemakers, alcoholic partners associated with domestic violence. The increasing rates of domestic violence are surfacing around the world[6]. In China, domestic violence is reported to have tripled during their shelter-in-place mandate. France has indicated a near 30 per cent increase while reports in Brazil show a 40–50 per cent increase[7]. Italy too has indicated a rise in domestic violence. In Spain, a trend of domestic violence-related homicide is reported which is unfortunately presumed to continue across the globe as 'stress' continues to build up and the shelter-in-place measures extend further. Agencies across the United States are reporting a rise in domestic violence and an increase in the use of COVID-19 as a means of perpetrating abuse, preventing the victims from washing their hands and threatening to refuse treatment for them if they contract the virus in an attempt to instill fear into the victims. Globally, a trend has been established which predicts domestic violence to continue to rise throughout the pandemic and the cases being reported may only be the tip of the iceberg as many victims are still trapped with their

perpetrators and would be unable to access means to report the abuse[8]. The Corona virus crisis may result in more number of violence against women and children than currently being reported.

International studies and comments show that women are more likely to face domestic violence within the confines of their homes with no or limited immediate access to police and other law-enforcing agencies during the lockdown. The Indian government has taken various measures to address DV. The National Commission for Women (NCW) reported that there has been a steep rise in crimes against women across the country amid restrictions imposed due to the COVID-19 outbreak. NCW received 587 complaints from March 23 to April 16, out of which 239 are related to domestic violence[9]. The nationwide lockdown locked/confined the abuser and the victim together (in a house). Therefore, NCW launched a WhatsApp number to report domestic violence on an emergency basis during the lockdown and a total of 40 messages were received[10,11]. The commission constituted a special team to handle these complaints on a fast track basis. They first scrutinized those related to DV amid the lockdown, and gave them priority to provide support with immediate security to the aggrieved women with the help of state police and administration. The government also tried to find out ways to protect the women facing domestic abuse by planning to set up special shelters for vulnerable women, and popularising its helplines to rescue the abused women during the lockdown. Although the government is proactive in planning various contingencies to tackle DV, the associated risk factors compounded lead to an accumulation of stressful events as a result of COVID-19. Based on the learnings of previous studies and comments, women were more likely to face domestic violence within the confines of their homes with no immediate access to police and other law-enforcing agencies during the lockdown[7]. The current crisis has certainly disrupted the economy which may produce a sense of civil unrest, and trigger the spike of violence against women and children. Additionally, studies indicate the increased rates of domestic violence reported after a natural disaster often extends for several months after the catastrophic incident occurs. The pandemic being a natural disaster along with economic crisis will result in an overall surge in domestic violence relatively even greater than what would have followed only a natural disaster. The surge in cases of domestic violence following a natural disaster usually lasts for months, sometimes nearly a year as seen in studies in the United States and Canada on the spike in domestic violence service requests following a natural disaster[12].

Custom and Crime

Domestic violence as a concept of crime is essential with social order. The genesis of this violence lies in the behaviour of men to dominate, control, and oppress women. The notion of crime is embedded in beliefs and values. Though beliefs and values are reinforced by the society, effective enforcement of laws threatens its overt survival. Some social evils like sex-selection abortion, child marriage, dowry and *sati* were used to be socially-accepted practices. The degree of effective enforcement of newly introduced laws against these practices has direct correlation. While there is a drastic decline in abortion and child marriage, and practice of *sati* is unknown, dowry still remains prevalent. This proved that crime in society is relative to the State and administrative interventions. However, the success of State administration is directly affected by the degree of convergence with the existing beliefs and values of the society.

Challenge arises with the divergent beliefs and values. What is considered wrong in one place may not be so in another place. In case of Langia Soara, a primitive tribe of Odisha, polygyny is the accepted norm in the community alhough the Hindu Marriage Act specifically says, one cannot have more than one living wife at a time (monogamy). These examples further reflect that the concept of beliefs and values depends largely on the evolving social position of women in society. These draconian values, accepted norms, and

behavioural pattern of a particular society at a given time are also being negotiated with the changing position of women in the society. Pressure and struggle for structural gender balance from society often aggravates the existing bias of traditional and customary practices, resulting in violence. Entangled with social pressure, women and her family feel shame and have difficulty in coming forward. Society classifies it as a deviant behaviour. Toleration of violence or even its encouragement through various socio-cultural norms is not an alien aspect to the societies' world over[13]. However, cumulative outcome of education, legal information and awareness, aid and protection, and adequate efforts made by law and public authorities would have ameliorated their condition.

This makes culture an important factor to address domestic violence in its entirety and determines how certain populations and societies perceive, process and permeates domestic violence. If controlling violence is only judged as an instrument of law and administration outside the cultural system, then it fails to meet the needs of the oppressed women. The question arises, who defines the 'customs' and 'crime'. It is simply an act defined by the State as harmful to the public welfare? Does the concept of crime supersede the idea of a social wrong over individual crime? Is it a concern of an individual, the woman? Does the cultural institution of marriage and family as practiced in India engender substantial violence toward women? All these questions transform understanding that correlates custom leads to harassment that further culminating in suicide or murder of a woman.

Law and Mores

There are shreds of evidence that traditional expectation to fulfill the domestic and family roles persists despite the contribution of the women in terms of income and urban living. Education has brought women out of the confines of the house but not against the pattern of social values. Afraid of losing social support from the community reinstates biased values and beliefs in the family. Educated and working women armed with economic and political rights are now on its march to equality, and freedom[13]. However, one should not overlook in this process of social transformation- the more distressing shadows of conflict. Although some cases of interpersonal violence are taken care of by the law and justice system while many cases are buried as a social stigma. Law may provide protection and punishment to perpetrators but women are unable to achieve ‘normal’ or resilience as stigma of being confrontationist continues forever. The injustice done to women by the values and stigma that reinstate women as social ideal which is rooted in power of defining tradition of wrong or right remains in the grip of men. In the process, men as provider or seeker of justice are also product of society making difficult to segregate between individual responsibilities and social values-finding injustice no challengers.

Legislation alone cannot by itself solve the deep-rooted social problems. Policy makers have to approach community as social collateral but legislation is necessary so that community may give that push. Community as a social educative factory with legal sanction behind it helps in creating public opinion to be given a constructive and progressive shape. Every time policy envisage objective to create a normative public opinion but fails to protect from deviant societal reaction rooted in interpersonal violence against women. The stress is to control husband while violence gain strength in bias social constrain that reinstates dignity of women seeking justice, often it works against her as pressure groups are in operation all the time that law fails to address.

Crime against women and delayed justice promotes gender bias. Law is unable to stop parents from not sending girl children for schooling or higher education; and restrict education by beliefs that households work is feminine and girls are meant to assist their mother after their schooling. Even it is ingrained in the

food privileges enjoyed by the male offspring. As reported, personal insecurities shadow women from cradle to grave. In the household they are last to eat, at school, they are last to be hired and fired and from childhood to adulthood they are abused throughout because of their gender. The fear of antagonizing the in-laws prevents parents of girls from lodging any formal complaint in spite of clear and constant harassment. Besides school and education, the social stigma and fear of social ostracism are so intense that the families prefer to bury their pain rather than highlight them.

While talking of crime, the concept of law automatically comes into the picture. Our laws do possess the means of controlling these abuses like domestic violence. Therefore, at this junction, a very brief understanding what laws and how it recurs is important. Law is applied by the courts while 'mores' are those which are applied by an ideal judge, whether personal or driven or abstract; but are directly and indirectly related to the social customs of the society. 'Mores is culturally dominated than 'law'. Though the definition and instruments of implementation remain different in laws and mores, the basic intention remains the same i.e. a conducive condition for the social existence. Law is equal irrespective of caste, sex, and age. However, 'mores' do posses an essence of social and regional influence as a social construct. An ideal society cannot be envisaged with laws without support of mores, leading to non-acceptance by the members of society. Law cannot be enforced without partnership of the community. For example, *Lado* campaign in Madhya Pradesh introduced to eradicate child marriages. The campaign was on "mission mode" for bringing about perceptible systemic changes by institutionalizing a multi-pronged coordinated strategy on the premise that no other solution is sustainable except creating awareness network, and accountability among the perpetrators. Effective implementation by using accountability tools to the stakeholders engaged in the process of marriage such as issuing of guidelines to all printing press for printing age certificate on the wedding cards; transport authority to check age at marriage when the services are booked for marriage; doctors to verify before issuing age certificates, etc. created a network accountability in a stratified and traditional society which resulted in making a "child marriage free state[1]". This simply accounts for the effectiveness of public system with integration of government agencies and community value system.

Law exists and do recognize cultural factors. The Protection of Women from Domestic Violence Act (PWDVA or Domestic Violence Act) was enacted in 2005 and it expanded the definition of domestic violence to include all forms of violence such as physical, psychological, sexual and economic violence[14]. Its total implementation was impeded by lack of integration of government agencies and community cultural factors that informally guide the functioning of the police and the judiciary, as many cases demonstrates. The government also tried to find ways to protect women facing domestic violence during COVID-19[15]. All the parameters of risks got aggravated due to the lockdown. So much so that the National Commission for Women issued a WhatsApp number as a medium to overcome crumbling existing structures of Family Counseling Centre (FCC) with women Helpline number that existed in every district to address domestic violence cases[16]. Lockdown didn't allow the FCC to operate, nor could the victims reach FCC, though in the later phase, the FCC started to follow up with women who had already complained about violence. The increased rate of domestic violence in India has been witnessed from different survey data. These statistics are incurred only from the cases which have been reported. Many victims do not perceive hurtful behaviour as 'criminal' as justification of deviant behaviours by men is often rooted in the financial distress. Unless women label it as the violence they tend not to report it[17]. It also takes decades for the simplest case in India's overloaded courts to be decided, and denial of timely justice for victims and their families. Additionally, it reinforced during the COVID-19 lockdown period.

Conclusion

Domestic violence was one of India's more extreme evidences of abuse seen during the COVID-19 lockdown period. As the situation of Indian households is no different, a spurt in the number of cases is eminently visible. Although the government is proactive in placing various measures to tackle DV, the associated financial risk factors compounded with the lockdown with limited access to government facilities result in an accumulation of stressful events as a result of COVID-19[11]. There is a growing awareness that domestic violence is a global phenomenon and is a serious issue in India as well[18]. The pandemic provides time to reevaluate the deep-rooted cause of this social construct, and the customs of the law associated with it, particularly in the case of Indian women. The universality of domestic violence with increased vulnerability due to the lockdown gives rise to factors that can break the cycle of violence. The experience of violence suggests that women often struggle with constant abuse as a punching bag. The rationality of abuse is established with increased economic and health crises. The abuse can range anywhere from one-off instances of physical violence or streams of insults and remarks classified as psychological abuse. For women, the duration, form, and severity of violence do not matter as much, or does the crisis subsides her insult. Unfortunately, a form of patriarchy is either strongly ingrained or has left its traces in most households[3]. India needs a cultural revolution. To combat the violence, the country needs to work towards changing men's beliefs and attitudes. Because discrimination against women begins in the womb, a sweeping change in attitudes of both sexes is vital. Children should not be valued by their gender. From a young age, children must be taught about gender equality both in their homes and in the community. As a society, India must come together and reject the process of socialization of men to be aware of the gender discrimination that exists.

Prevention of violence against women requires the involvement of both the state and civil society. It is imperative that society works toward changing cultural practices. It needs concerted efforts by everyone to create an environment. However, such an environment is only possible through a change in attitudes, behaviours, and practices that create gender hierarchies in the society. The government has the power to formulate legislations and policy frameworks needed for social change. But the institutions of the state need to implement these changes with a seriousness that conveys their commitment to the issue[1]. At the same time, institutions can succeed only if they have the support of the community. Though these act in the interest of women, the effective application of the acts is important particularly during the lockdown[5]. Existing government and civil society services to provide support to women at the time of crisis freeze to deliver due to the lockdown leaving women trapped with the perpetrators with limited resources and worsening conditions. The rise of domestic violence cases during the lockdown should be one of the top priorities in the country. Therefore, the strategic task is to find out more sustainable solutions, and innovative ways with expanded community partnerships to detect abuse in homes during and after the COVID-19 pandemic.

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सारांश

इस लेख का उद्देश्य कोविड–19 महामारी के दौर में लिंग कैसे और क्यों अर्थपूर्ण है, इसके बारे में जागरूकता बढ़ाना है। प्रमुख परिचर्या दाता तथा अग्रपंक्ति प्रदाताओं के रूप में कार्यरत महिलाएं, इस महामारी के कारण प्रत्येक दिन होने वाले मनोवैज्ञानिक और घेरलू वित्तीय भार को कम करने में महत्वपूर्ण योगदान दे रही हैं। इसके अतिरिक्त, वह घरेलू हिंसा की निरंतर बढ़ती घटनाओं के साथ–साथ स्वास्थ्य व आर्थिक चुनौतियों के संभावित जोखिमों को सहन करती हैं। यह सूचना तत्कालीन अनुसंधान तथा लिंग आधारित आंकड़ों पर भी प्रकाश डालती है ताकि इस महामारी के दौर में महिलाओं के सामने आ रही विभिन्न वास्तविकताओं/चुनौतियों को उजागर किया जा सके । इस सामाजिक प्रक्रिया में लैंगिक असमानताओं की सांस्कृतिक एवं सामाजिक रचना को भी प्रदर्शित किया गया है। इस लेख से पता चलता है कि इस महामारी का निहितार्थ न केवल स्वास्थ्य प्रभावों तक सीमित है, अपितु इससे पहले से विद्यमान असमानताओं की गहनता बढ़ी है। घरेलू हिंसा के मामलों में भी महामारी की प्रत्यक्षत : प्रकोप छवि दिखती है क्योंकि महिलाओं को उनके साथ दुर्व्यवहार करने वालों के आश्रय में जीवन निर्वाह करना पड़ता है। कोविड–19 को लैंगिक दृष्टि से देखना, इसलिए भी महत्वपूर्ण है, ताकि महिलाओं के सम्मुख आने वाली लैंगिक विषमताओं तथा चुनौतियों का समाधान किया जा सके। इस लेख में महिलाओं के कल्याण तथा संरचनात्मक असंतुलन के परिणामस्वरूप अंतर्वैयक्तिक हिंसा को दूर करने के लिए सरकार और समुदाय के सहयोगात्मक प्रयासों की संस्तुति की गई है।

प्रमुख शब्द : लिंग, घरेलू हिंसा, प्रथा, अपराध, आचार–विचार, कोविड –19

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Culture Combating COVID-19: Perspectives from Indian Ethno-Medicine

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Abstract

Corona virus, started in December 2019, which weighs less than an attogram (10^{-18} grams, symbol: ag), brought the 'advanced' 21st century's civilized world to its knees. It infected three million people and killed a quarter million in less than four months! Though battered and defeated, the humankind started inventing vaccines to contain this virus. The first COVID-19 vaccine entered the human clinical testing with unprecedented speed on 3 March 2020. On 11-12 February 2020, WHO, in collaboration with the Global Research Collaboration for Infectious Disease Preparedness and Response (GLOPID-R) organized a Global Forum on research and innovation for COVID-19 (Global Research Forum). The Coalition for Epidemic Preparedness Innovations (CEPI) is working with global health authorities and vaccine developers to support the development of vaccines against COVID-19. The COVID-19 pandemic has prompted strategies to fast-track the timeline for licensing a vaccine against COVID-19, especially by compressing (to a few months) the usually lengthy duration of Phase II-III trials (typically, many years). Using RNA allows us to be fast because the genetic sequence can be made synthetically in the lab, and because it can self-amplify, we need only a very low dose of the vaccine for it to be effective – we can make the equivalent of a million doses in one litre of reaction material. This allows us to scale up very quickly and it is feasible to be making 10s of millions of doses per week from our lab. RNA vaccines are quick and relatively easy to make, which is why they are already being tested in people. There are so many vaccine manufacturers across the globe are tirelessly working to develop a vaccine, and some of them have started human trials also. Once the vaccine is invented, the disease could be eradicated from the world at an unprecedented pace but the logistics of vaccinating the planet could be the biggest challenge in history.

Key words: *Culture, COVID-19, Ethno-medicine, WHO, Herbals, Family System.*

Introduction

Many human societies, communities and cultural groups have developed their indigenous medical and health care system to respond to various diseases and illnesses. An indigenous medical system is an integral part of the culture in which it has been developed or evolved[1]. The study of indigenous medical system covering indigenous and traditional health care practices comes under the realm of *ethno-medicine* in Anthropology. In general, ethno-medicine (Ethno is a Greek word which means race, nation, people or cultural group) refers to the study of traditional medicine which addresses the health and healing behaviour

of a society. According to the World Health Organization, traditional medicine is defined as health practices, approaches, knowledge, and beliefs incorporating plant, animal and mineral-based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illness or maintain well-being. The matrix of ethno-medical system incorporates beliefs and practices relating to disease which are the products of indigenous cultural development and are not explicitly derived from the conceptual framework of modern medicine[2,3].

India, being the land of diverse cultures and traditions, harbours the world-recognized system of traditional medicine. This traditional medicine system has been codified into six major domains: Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homeopathy (AYUSH). However, some of these traditional domains (like Ayurveda) were also adopted from other countries but they got completely assimilated into the Indian medicine system and enriched like any other form of indigenous medical system[4]. Like any other cultural tradition, the knowledge of traditional medicine is passed on from generations to generations through oral transmission.

Relevance of Ethno-Medicine in India

The efficacy of the Indian ethno-medicine system is mainly based on the plants having medicinal value. The traditional knowledge and use of plants as herbal medicines has been well documented in the classic Ayurvedic literature. Indian ethnic communities use more than 8000 species of plants and approximately 25,000 folk medicine-based formulations as part of their health care systems. About 65 per cent of the Indian population relies upon traditional medicine for their health care needs. These traditional or herbal medicines are widely used in tribal and rural areas of south and north-east regions of India[5-12].

In developing countries like India, minerals and plant and animal resources offer a real substitute for the modern medicine in treating human ailments. Most of the traditional plant-based medicaments are reported to have anti-inflammatory, antioxidant, antipyretic, antihelminthic, antifungal, antibacterial, and antiviral activities. Plant-based traditional medicines also play a crucial role in the development of novelties in drug discovery. The fastidious spread of the new or emerging strains, as in case of HIV (human immuno virus) Coronavirus have also compelled virologists to look for better alternatives in nature, especially for people who have very limited or no access to the expensive drugs[13-15].

The present study highlights the importance of the Indian ethno-medicine in combating the deadly COVID-19 disease with a special emphasis on Ayurveda, Yoga and Homeopathy traditions. However, this study requires the scientific and standard clinical trials to validate the effectiveness of traditional ayurvedic and homeopathic practices in alleviating the infection of COVID-19 disease. The current study also underlines the self-care and immunity boosting advisory guidelines issued by the Ministry of AYUSH in the attenuation of the COVID-19 pandemic. At the end, the importance of traditional Indian family system in managing the COVID associated stress situations has also been discussed.

A Brief Overview of COVID-19

The novel Coronavirus disease 2019, also known as COVID-19 is caused by a zoonotic virus, SARS-CoV-2. COVID-19 is the new strain of coronavirus that was initially identified in late December 2019 when a cluster of patients in Wuhan City, China were diagnosed with mysterious pneumonia having unknown etiology[16]. The previous outbreaks of coronaviruses include SARS-CoV (severe acute respiratory

syndrome)-CoV and MERS-CoV (Middle East respiratory syndrome) also posed serious threats to public health.

The average incubation period of COVID-19 disease is 5.2 days[17]. The most common symptoms of COVID-19 disease are fever, dry cough, and fatigue, while other symptoms may also include sputum production, sore throat, headache, haemoptysis, diarrhoea, nausea, muscle ache and chest pain. This deadly viral disease primarily targets human respiratory system and induces body's immune response that leads to increased inflammation[18-19]. A person's weak immune system allows the faster progression of COVID-19 disease, making this viral disease comparatively more detrimental to the vulnerable groups of our society including elderly, children and people having co-morbid conditions. The current mortality rate of COVID-19 disease for overall infected population is 0.25-3.0% while it increases to >14 per cent among elderly (over 80 years), 10 per cent in associated CVD and 7 per cent in associated diabetes. The mortality statistics of China reveals that people with co-morbid conditions such as hypertension, diabetes, coronary heart diseases and cerebrovascular disease have an increased COVID-19 mortality risk[20]. At present, there is no standard vaccine or treatment for novel COVID-19 disease. Therefore, enhancing the body's natural immune system is one of the best preventive or supporting measures to deal with the COVID-19 crisis. The unmet need for discovering successful COVID-19 vaccine can only be fulfilled by implementing the indigenous knowledge of ethno-medicine against this pandemic disease.

Ethno-Medicine and COVID-19

Ayurveda: In India, Ayurvedic practices have a long history of curing various diseases and illnesses. Ayurvedic doctrine believes that occurrence of any human disease is due to *dosha* or disturbance in three principal components of human body i.e. *vata* (elements of Space and Air), *pitta* (elements of Fire and Water), and *kapha* (elements of Water and Earth). Any disturbances in body *doshas* can be stabilized or managed by oral ingestion of food, spices and plant-based formulations. Consumption of unhealthy or inappropriate food causes many diseases or sometimes deteriorates the existing diseased conditions. Type of food and pattern of food intake also influences the healing process of the body. The second stabilizer of body *doshas*, spices, is obtained from integral parts of the woody or herbaceous plants. Indian spices such as turmeric, cumin, coriander, ginger and black pepper contain many active ingredients that helps to cure respiratory and digestive ailments. Ayurvedic plants, one of the most important components of Ayurvedic practice, have a stronger action on the body than either food or spices. Such actions enable the plant to reverse pathophysiological processes and stabilize the *doshas*[21]. Since many Indian medicinal plants exhibit antiviral, anti-inflammatory and anti-oxidant properties, it is favourable to consider them for the likely treatment of novel corona virus disease[22]. Table 1 illustrates few plausible Ayurvedic interventions to cope with COVID-19 infection among different categories of people having mild, severe and no symptoms.

Table 1

Proposed Ayurveda Interventions in COVID-19 Outbreak and Their Rationale*[23]

No.	Category of people	Proposed Intervention
1.	Unexposed asymptomatic group	Common health keeping approaches of Ayurveda including healthy diet, healthy life-style, adequate sleep, physical activity, good conduct, cares for retainable and non-retainable urges, and avoidance of disease causing factors (excessive cold and exposure to pollutants). In addition, Chyavanprasha, Brahma Rasayana, Amrit Bhallataka, Sanjeevani vati, Swarna prashan.
2.	Exposed asymptomatic (Quarantined)	Sanjeevani vati, Chitrakatdi vati, Chyavanprasha, Brahma Rasayana, and decoction of a combination of herbs, Tinospora cordifolia, Zingiber officinale, Curcuma longa, Ocimum sanctum, Glycyrrhiza glabra, Adhatoda vasica, Andrographis paniculata, Swertia chirata, Moringa oleifera, Triphala and Trikatu.
3.	With mild COVID-19 symptoms	Pippali rasayan, Go Jihvadi Quath, Kantakari Avaleha, Chitrakadi vati, Vyaghri haritaki, Dashamul kwath, Sitopaladi, Talishadi, and Yashtimadhu etc.
4.	With moderate to severe COVID-19 symptoms	Pippali rasayan, Laghu Vasant Malati, Sanjeevani vati, Tribhuvan Keerti rasa, Brihata Vata Chintamni rasa, Mrityunjaya rasa, Siddha Makardhvaja, etc.

***Note:** The proposed interventions are supposed to be practiced without compromising the conventional advisories by government authorities including frequent hand-washing with soap till 20 seconds, coughing and sneezing etiquettes, physical distancing and universal mask usage.

Dosages of individual formulations are to be judged carefully by an experienced Ayurvedic physician on the basis of *roga* and *rogi bala* with an utmost care for the vulnerable population like children, pregnancy and elderly. In almost all the cases, hot water may be considered as preferred *anupan* (post drink) during the treatment.

Yoga: Along with the Ayurveda, Indian traditional medicine system equally emphasizes on Yogic practices to bring balance and health to human body and mind. Yoga (Yog means union) consists of eight limbs: attitudes toward others/restraints (yamas), rituals/self-observances (niyamas), physical practice of postures (asana), breathing practice (pranayama), withdrawal of the senses (pratyahara), concentration (dharana), meditation (dhyana), state of enlightenment (samadhi)[24]. Regular practice of yoga is accompanied by substantial pyscho-physiological benefits which may prove to be favourable for managing the pathological effects of COVID-19 disease. Clinical evidences suggest that excessive inflammation, oxidation, and an exaggerated immune response very likely contribute to COVID-19 pathology[25]. Furthermore, the outbreak of the disease has also generated psychological fear, stress, and anxiety among individuals worldwide. Various yogic practices and poses (*asanas*) have the immense potential to prevent and reduce the risk factors associated with COVID-19 infection. Table 2 illustrates the role of various yoga practices in strengthening respiratory function, augmenting immune response and managing stress.

Table 2
Role of Yoga Practices in COVID 19 Outbreak

Impact of Yoga	Rationale	Recommended Yoga Practice/*Asanas*
Strengthening Respiratory System	The regular practice of yoga increases chest wall expansion and strengthens respiratory musculature[26]. Yoga improves the respiratory apparatus by making efficient use of abdominal and diaphragmatic muscles[27]. Yoga increases the efficiency of all lung functions due to which chest and lungs inflate and deflate to fullest possible extent and muscles are made to work to maximal extent[28].	**Surya Namsakar** **Kapalbhati** **Nadisuddi** **Bhastrika** **Bhramari** **Pranava Pranayama**
Immunomodulation	Yoga intervention combines healthy lifestyle and functioning, on the principles of psycho-neuro-immunology which might be helpful for enhancing anti-inflammatory response[29]. Yoga stimulates vagal activity which has favorable endocrine and immune consequences, including lower inflammation[30].	*Kurmasana* (tortoise pose) *Adho Mukha Svanasana* (Downward Facing Dog pose) *Ustrasana* (Camel pose), *Yoga Mudra,* and *Bhujangasana* (Camel pose)
Stress Management	Yoga leads to an inhibition of the Hypothalamic-Pituitary- Adrenal (HPA) axis thus, optimizing the body's sympathetic responses to stressful stimuli, and restores autonomic regulatory reflex mechanisms associated with stress[31-32]. Yogic practices inhibit the areas responsible for fear, aggressiveness, and rage, and stimulate the rewarding centres in the median forebrain and other areas, leading to a state of bliss and pleasure[32].	Dhanurasana (Bow pose) Ustrasana (Camel pose) Padangusthasana (Big Toe pose) Marjaryasana (Cate pose) Utthita Trikonasana (Extended Moon Pose)

Homeopathy: Homeopathy has an incredible history of preventing and curing various diseases and illnesses. The traditional medicine system of Homeopathy stimulates immune system and auto regulatory processes by using small doses of various substances. Homeopathy selects substances by matching a patient's symptoms with symptoms produced by these substances in healthy individuals[33].

Human response to any infectious disease is mainly dependent on the effectiveness of the immune system. A growing body of credible evidences identify immunity as one of the key co-factors in COVID-19 susceptibility. In the view of surging COVID-19 cases, Government of Kerala is giving a big push to homeopathic medicine as an immunity booster and has distributed it to 45 lakh people across the state[34].

Table 3 delineates the recommended Homeopathic medicines to manage the outbreak of COVID-19 pandemic.

Table 3

Recommended Homeopathic Medicines to Manage the COVID-19 Outbreak[35]

Arsenicum album, Btyonia alba, Rhus toxico dendron, Belladonna Gelsemium Eupatorium perfolia tum	These medicines are found to be effective in boosting immunity treating flu like illnesses[35,36].

Note: All these medicines should be taken in consultation with qualified homeopath

Government Intervention in COVID-19 Crisis

Considering the importance of Indian traditional medicine system, Government of India established the Department of Indian System of Medicine and Homeopathy (ISMH) in March 1995 which was renamed in November 2003 as Department of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy). In the light of the outbreak of COVID-19 disease, AYUSH department has also recommended few self-care guidelines for preventive health measures and boosting immunity with special reference to respiratory health. These measures are also supported by Ayurvedic literatures and scientific publications[37].

General Measures

- Drink warm water throughout the day.
- Daily practice of Yogasana, Pranayama and meditation for at least 30 minutes as advised by Ministry of AYUSH (#YOGAatHome #StayHome #StaySafe)
- Spices like Haldi (Turmeric), Jeera (Cumin), Dhaniya (Coriander) and Lahsun (Garlic) are recommended in cooking.

Ayurvedic Immunity Promoting Measures

- Take Chyavanprash 10gm (1tsf) in the morning. Diabetics should take sugar free Chyavanprash.
- Drink herbal tea / decoction (Kadha) made from Tulsi (Basil), Dalchini (Cinnamon), Kalimirch (Black pepper), Shunthi (Dry Ginger) and Munakka (Raisin) once or twice a day. Add jaggery (natural sugar) and / or fresh lemon juice to your taste, if needed.
- Golden Milk- Half tea spoon Haldi (turmeric) powder in 150 ml hot milk - once or twice a day.

Simple Ayurvedic Procedures

- Nasal application- Apply sesame oil / coconut oil or Ghee in both the nostrils (Pratimarsh Nasya) in the morning and evening.
- Oil pulling therapy- Take 1 table spoon sesame or coconut oil in mouth. Do not drink, Swish in the mouth for 2 to 3 minutes and spit it off followed by warm water rinse. This can be done once or twice a day.

During Dry-Cough / Sore-Throat

- Steam inhalation with fresh Pudina (Mint) leaves or Ajwain (Caraway seeds) can be practiced once in a day.
- Lavang (Clove) powder mixed with natural sugar / honey can be taken 2-3 times a day in case of cough or throat irritation.
- These measures generally treat normal dry cough and sore throat. However, it is best to consult doctors if these symptoms persist.

Furthermore, the Ministry of AYUSH has also directed the states and union territories to start the commercial production of herbal decoction to strengthen immunity amid the COVID-19 pandemic. The specific ingredients of the decoction include Basil (tulsi) leaves, cinnamon bark, sunthi (Zingiber officinale) and Krishna marich (Piper nigrum). This decoction has been named as 'Ayush Kwath' or 'Ayush Kudineer' or 'Ayush Joshanda' and can be prepared by making a powder of the dry ingredients and putting 3 grams of powder in sachets or tea bags. It was further suggested that the herbal decoction can also be manufactured as tablets, which can be consumed like tea or hot drink by dissolving in 150 ml. of boiled water, once or twice daily[38].

Role of Indian Traditional Family System in COVID-19 Pandemic

In addition to the traditional medicine system, the traditional joint family system in India has proven itself remarkably resilient in managing the psychosis fear, stress and anxiety associated with the COVID disease. Collectivism, the basic cultural element of Indian family system plays a pivotal role in taking good care of all the family members, especially children and elderly. In today's changed scenario, when people are being confined to one place due to the COVID lockdown, many psycho-social problems are generating across the societies. The socio-cultural ethos of Indian families forms a valuable support system, which is exceptionally helpful in managing stressful situations. The capability of Indian families in fulfilling the emotional needs of their members can also be used as an important tool to handle many small-scale mental health problems caused by COVID-19 pandemic.

Conclusion

Ethno-medicine, the study of traditional medical practice, concerns the cultural interpretations of health, diseases and illnesses. India has a rich cultural heritage of traditional medicine system which is founded on six major domains: Ayurveda, Yoga, Unani, Siddha, Homeopathy and Naturopathy. Indian traditional medicaments have proven to be promising alternatives for the effective treatment of various bacterial, fungal and viral diseases. At the present time, the entire mankind is suffering due to the worldwide spread of the COVID-19 pandemic. Since the outbreak of the disease, researchers have been toiling constantly to develop an effective vaccine for the treatment of this potentially fatal disease. Simultaneously, strenuous efforts are being made to mitigate the spread and to protect the public in the most befitting manner before a vaccine can be made. Indian ethno-medicine system, especially Ayurvedic, Yogic and Homeopathic practices provide promising and potential therapies to cope with the COVID-19 infection. By exploring the hidden miraculous treasure of many Ayurvedic and Homeopathic formulations, it is possible to reduce the burden of the ongoing pandemic. Additionally, the yoga practices produce many positive psycho-physiological changes in the body which are helpful in stress management, immunity boosting, strengthening of cardio-respiratory muscles and in overcoming other corona-associated complications and

co-morbid conditions. At the time of novel COVID crisis, proactive research steps in the field of Indian ethno-medicine would be extremely beneficial to save the mankind from this lethal disease. Simultaneously, the valuable support system of traditional Indian families would help India to win the fight against COVID-19 in a holistic manner.

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कोविड–19 का संस्कृति के आधार पर सामना : भारतीय एथनो–मेडिसिन के परिप्रेक्ष्य से

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सारांश

भारत में विभिन्न मानवीय रोगों के उपचार के लिए नैतिक चिकित्सा (एथनो–मेडिसिन) पद्धति का प्रयोग लंबे समय से किया जा रहा है। भारत की सुप्रसिद्ध पारंपरिक चिकित्सा प्रणाली, छह प्रमुख पद्धतियों पर आधारित है : आयुर्वेद, योग, यूनानी, सिद्ध, तथा होम्योपैथी तथा प्राकृतिक चिकित्सा। ये मान्यता प्राप्त स्वदेशी पद्धतियां हमारे प्रमुख सांस्कृतिक विषयों को प्रतिबिंबित करती हैं तथा वैश्विक स्तर पर स्वास्थ्य देखभाल संबंधी आवश्यकताओं को पूरा करने में महत्त्वपूर्ण भूमिका निभाती हैं। हाल ही में, कोविड–19 का अभूतपूर्व प्रकोप वैश्विक स्तर पर प्रमुख जन स्वास्थ्य खतरों में से एक के रूप में उभरा है। विश्व भर के चिकित्सा विशेषज्ञ इस घातक महामारी के विरुद्ध एक प्रभावी तथा सक्षम टीका विकसित करने की दौड़ में भाग ले रहे हैं। भारतीय नैतिक–चिकित्सा में कोविड–19 की रोकथाम एवं उपचार दोनों के लिए व्यापक संभावनाएं मौजूद हैं। वर्तमान अध्ययन में आयुर्वेद, योग तथा होम्योपैथी के विशेष संदर्भ में कोविड–19 रोगों से निपटने में भारतीय नैतिक चिकित्सा पद्धतियों के महत्व को उजागर करने का प्रयास किया गया है। व्यवस्थित समीक्षा से उत्पन्न विश्वसनीय साक्ष्यों के आधार पर, वर्तमान अध्ययन मुख्य धारा की स्वास्थ्य देखभाल प्रणाली में पारंपरिक स्वास्थ्य देखभाल पद्धतियों को शामिल करने पर केंद्रित है। यद्यपि, नवीन कोरोनावायरस रोग के उपचार में पारंपरिक चिकित्सा प्रणाली की प्रभावकारिता सुनिश्चित करने के लिए आयुर्वेदिक और होम्योपैथिक औषधियों के वैज्ञानिक परीक्षण और सत्यापन महत्वपूर्ण रूप से आवश्यक है। वर्तमान कार्य में भारत की कोविड–19 चुनौतियों को संबोधित करने में आयुष मंत्रालय के हस्तक्षेप का चित्रण किया गया है। अंत में, कोविड से संबंधित तनाव के प्रबंधन में पारंपरिक भारतीय परिवार प्रणाली की भूमिका पर भी प्रकाश डाला गया है।

प्रमुख शब्द: संस्कृति, कोविड –19, एथनो–मेडिसिन, विश्व स्वास्थ्य संगठन, हर्बल्स, परिवार प्रणाली ।

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How to Leverage on the Knowledge Gained by Society during COVID-19 for Future Pandemic Preparedness

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Abstract

COVID-19 pandemic in India has impacted on the public thinking, behaviour and response. It has increased awareness of the general public about preventive and preparedness measures for disease control. A common man is now aware of disease preventive measures like social distancing, use of masks, hand washing and hand sanitizers, quarantine, healthy lifestyle and nutrition. Social media has emerged as the biggest influencer especially in metro cities and urban areas, both positively and negatively in the present pandemic. Government of India has also played a pro-active role in containing the infodemic of false data, and many treatments and preventive measures with no proper evidence, that are shared in social mobile applications. Government policy in shaping a future pandemic preparedness guideline, must consider both the positive and negative themes emanating from the present pandemic. Any exercise to help maintain the awareness gained by the society from the present pandemic should not only help imbibe the positive themes but also actively educate against the misleading information and false beliefs. It is important to understand how social psyche has been affected by previous epidemics in our country to understand the impact and usefulness of public memory on pandemic preparedness. Collective responsibility isn't a magic pill to defeat a disease.It is important to realize that the lessons learnt are not to be forgotten like what happened beyond the Great Spanish Flu. Any attempt by the government in this direction will help managing human lives in a less deadly way in the future pandemics. Best ways to imprint long term public memory is to invest in future generations in the form of text book chapters in public health and outbreak preparedness.

***Key words**: COVID-19, Pandemic, Epidemic, Knowledge, Society, Children, Awareness*.

Introduction

The biggest societal impact of COVID-19 in India is in terms of the increase in awareness of the general public about preventive and preparedness measures for disease control and basics of disease spread. The second aspect is the belief in and practices of the Government policy and guidelines, showing a successful handling of the present pandemic by the Government of India. A common man is now aware of disease preventive measures like social distancing, use of masks, hand washing and hand sanitizers, quarantine, healthy lifestyle and nutrition. Most of them are now aware of the technical terms like contact tracing, cluster cases, community spread, herd immunity, asymptomatic carriers, etc. Even school going children

experiencing the present pandemic lockdown, are getting aware of and actively practicing many disease prevention methods. Public now understands what are the best sources of reliable data, and guidelines.

COVID-19 is already in the process of becoming a significant pandemic in India in terms of its impact on the public thinking, and behaviour and response. Whether the positive public awareness created during COVID-19 will remain in the memory of the society, or not, will largely depend on the government's policy and efforts. The earlier such epidemics with impact on popular culture are the Bombay Plague of 1896 and the great Spanish Flu of 1918. In each of these epidemics, the then British-India Government played a prominent role in shaping up of the public response that continued and impacted beyond the epidemics. However, no popular efforts have been taken to help maintain the community's knowledge on public health learnt during these epidemics, so much so that, the Spanish Flu pandemic is infamously known as the 'Forgotten Epidemic'.

During COVID-19, the Indian government has so far played a major role in issuing guidelines and information dissemination to the public through electronic media including web portals, mobile applications, official social media handles, ring-tone messaging and televised press releases. Prime minister's address on TV and use of radio has also been very impactful for the last mile messaging and taking the government's message to the farthest corners of the country. Social media has emerged as the biggest influencer especially in metro cities and urban areas, both positively and negatively in the present pandemic. Government of India has also played a pro-active role in containing the infodemic of false data, and many treatments and preventive measures with no proper evidence, that are shared in social mobile applications. Government agencies like police have played a major role in information dissemination in smaller cities and villages. Many non-government organizations were also involved in information dissemination and community service.

The effects of the knowledge gained through this pandemic will help public practice these safety measures and understand government guidelines in future in a much better way and with a reduced learning curve. These measures help in reducing other disease burden in the society. The present pandemic has also practically exposed the public about the benefits of reduced use of tobacco and alcohol on health, and reduced use of vehicles on pollution, and reduced consumerism and minimalistic lifestyle. COVID-19 is an irony in opportunity that we should leverage up on to imbibe and perpetuate public health concepts.

The public involvement and awareness in the present pandemic should be leveraged upon and developed ways in which this knowledge is maintained in the society. These practices will help maintain disease prevention and outbreak management issues in the collective conscience of the society and future generations. In this article, the authors review the aftermath of the past epidemics and pandemics in India, and their impact on public preparedness and popular culture. They further relate these observations in context of the ongoing COVID-19 pandemic. Various effective means by which the knowledge base could be maintained for future pandemic preparedness are also discussed.

Previous Pandemics or Epidemics in India and Their Social Impact and review in Context of COVID-19

India has encountered a variety of epidemics and pandemics through time. Several accounts of influenza, cholera, plague, polio, small pox, dengue and several others have been recorded throughout history as mentioned in Table 1.

Table 1

Various Pandemics and Epidemics in India

S.No.	Disease	Pandemic or Epidemic	Year
1	Cholera	Pandemic	1817-1899 in 6 bouts
2	Bombay Plague	Epidemic	1896
3	Spanish Flu	Pandemic	1918
4	Polio	Epidemic	1970-1990
5	Small Pox	Epidemic	1974
6	Surat Plague	Epidemic	1994
7	H1N1 Flu	Pandemic	2009

There have been only two major pandemics in India, viz. Cholera and Influenza. While cholera had been predominant throughout the 19th century, the influenza pandemic came later on in the early 20th century. The Spanish flu pandemic of 1918-'19 is by far the most devastating which killed 50 million people worldwide and India being the worst hit.

The most significant of the epidemics in terms of change in social perceptions were the Bombay plague epidemic and the 1918 Spanish Flu epidemic. In both the cases, the British-India government tried to intervene, advocate social isolation and sensitise the population. They reacted the fastest in the case of plague and even introduced the Epidemic Diseases Act 1897 which involved mass sanitary measures like stopping festivals, pilgrimages, physical inspection, forced hospitalization, active surveillance, burning property, preventing burials or cremations, etc. The drastic measures met with a massive backlash from Indians, including riots and attacks on Government institutions and health workers. Though the government back tracked, some of the measures lasted, especially like the isolation camps and sanitary measures. The plague epidemic was a major turning point in Indian public health system. Even though the principles were new, introduction of hospitalisation and vaccines eventually led to a greater willingness to accept public health care. The plague also prompted slum clearance schemes; improvement trusts were formed in cities like Mumbai to make cities cleaner.

In stark contrast, during the Spanish Flu Pandemic, the government purposefully downsized its response, keeping in view of the backlash it met during the Bombay plague. Additionally, there was no known cure, no vaccines as compared to plague. The Government relied only on voluntary measures, including greater reliance on home quarantine. They introduced a system of community care, some homes were opened up as hospitals, and people were advised against attending large gatherings. During that pandemic, between 1918 and 1920, an estimated 18 million Indians lost their lives to influenza. Yet, it remains the most neglected chapter in the modern history of India, as a guiding point and proof of what can happen if a disease ranges out of control.

COVID-19 has aspects of both the above-discussed epidemics. The Indian government is pro-active and aggressive like in the Bombay plague, so much so that it has re-instated the Epidemic Act drafted in those times. Public are subjected to never before seen measures, like the nation-wide lock down. However, unlike the public angst back then, present day Indians have mostly accepted the stringent and necessary measures to a large extent. And similar to the Spanish Flu, the present COVID-19 has no vaccine yet or known treatment. However, the societal involvement and awareness has improved, backed by a belief in the government and its policies. This eventually could be a major factor in the on-going pandemic.

It is important to understand how social psyche has been affected by previous epidemics in our country to understand the impact and usefulness of public memory on pandemic preparedness. However, public memory could also lead to over sensitization towards outbreaks and sometimes, may lead to mass hysteric responses. How this act is balanced is in the hands of the policy makers for the best future pandemic preparedness programmes, beyond COVID-19.

The Role of Societal Involvement and Awareness in the Present Pandemic

What sets apart the present Covid-19 from previous pandemics is the unprecedented way the community has taken up the responsibility in a voluntary way. Community participation has occurred at all levels involving government and non-government agencies, public and private health sector, down to individual citizens. Information and awareness against basic preventive measures like social distancing, use of face masks, hand wash techniques have effectively been disseminated due to their efforts and imbibed at all levels of the society. Citizens are now aware of many government portals for evidence backed data and guidelines. Public are also now aware of additional aspects like healthy nutrition and healthy lifestyle. Public are now more acknowledging of the role of health workers and frontline sanitary workers.

Positive community public health themes emanating from the present Pandemic	social distancing, hand wash, face mask, PPE, quarantine, nutrition, vaccination, digital literacy, digital currency.
Negative themes trending during the Covid-19	Targeting specific religion, anti-Chinese sentiment, Wuhan lab, biological war fare, use of disinfectants as cure, various treatment claims.

It is also important to recognize the themes which had a negative impact so far in the present pandemic. Especially in pandemic situations, no amount of public or scientific advice, is enough to dispel rumours and fear. Community tends to feel comfortable to point to a figure and assign visibility to the problem, be it foreigners, another religion, the health system, those who eat meat or drink alcohol.

Government policy in shaping a future pandemic preparedness guideline, must consider both the positive and negative themes emanating from the present pandemic. Any exercise to help maintain the awareness gained by the society from the present pandemic should not only help imbibe the positive themes but also actively educate against the misleading information and false beliefs.

Different Ways to Disseminate the Lessons that We Learn from the Present Pandemic

The present pandemic has seen a major and positive role of the Indian government in containing the disease spread to a comparatively lower level, than most of the western world, especially when considering our huge population size and density. The Indian public has responded in a contributing way by following the guidelines set by the government. It sets an example of how policies are successful when backed by government. Therein also lays the answer for how the public memory needs to be maintained for the knowledge gained on various aspects of public health by the society.

Recommendations

- Government should be proactive in making text book chapters about the effects of pandemics at school level.

- Government should make information bulletins to disseminate good sanitary practices, good public health practices, the loss associated, develop modules for students, employees and general public about self-hygiene and disseminate in every possible institute.
- There should be regular practises like mock drills for social distancing, sanitary practices, healthy nutrition and sustainable development goals.
- It is important to highlight the common disbeliefs and hence, avoid any mass hysteric responses to disease outbreaks.
- Sensitization to public health concepts should be inclusive avoiding any stigmatization of a particular religion and region.
- There could be a day in the year celebrated as a national public health day, commemorating the efforts of the health care workers and public in the COVID-19 pandemic. The day will help in keeping the tale of the COVID-19 for many generations.

Conclusion

Collective responsibility isn't a magic pill to defeat disease, but it is important. It failed to emerge as a defining factor in the past handling of pandemics, and we must learn from that. Collective ownership however, is playing a major role in the present pandemic, and it is a major lesson to be learnt and carry forward. It is important to realize that the lessons learnt are not to be forgotten like what happened beyond the Great Spanish Flu. Any attempt by the government in this direction will help managing human lives in a less deadly way in the future pandemics. Best ways to imprint long term public memory is to invest in future generations in the form of text book chapters in public health and outbreak preparedness. Public health measures for communicable diseases should be brought to the basic conscience of society through various mediums like electronic, social media, institutional communication and political reach. At last and least, a day in the year to commemorate the efforts and sacrifice of community in this Covid-19 Pandemic, is necessary, in line with World AIDS Day or World Health Day. The impact of it can only be understood in the next disease outbreak.

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सह–संपादक: प्रो.जावेद हसन, वरुण अर्जुन मेडिकल कॉलेज, शाहजहाँपुर, उत्तर प्रदेश।

समीक्षक:

ए. के. अग्रवाल, सह–प्रोफेसर– सामुदायिक चिकित्सा, रोहिलखंड मेडिकल कॉलेज और हॉस्पिटल, बरेली, उत्तर प्रदेश।
प्रोफेसर क्यू. एच. खान, सामुदायिक चिकित्सा विभाग, एलबीआरकेएम सरकारी मेडिकल कॉलेज, डिमरापाल, जगदलपुर, छत्तीसगढ़।

सारांश

कोविड–19 ने जनसाधारण की सोच, व्यवहार और प्रतिक्रिया पर प्रभाव डाला है। इसने रोग के नियंत्रण एवं निवारण की तैयारियों के उपायों के बारे में आम जनता में जागरूकता बढ़ाई है। एक आम आदमी अब रोग से बचाव के उपायों जैसे–सामाजिक दूरी, मास्क का उपयोग, हाथ धोने और हाथ को संक्रमण–मुक्त करने, संगरोध, स्वस्थ जीवन शैली और पोषण से अवगत है। सोशल मीडिया विशेष रूप से मेट्रो शहरों और शहरी क्षेत्रों में सबसे बड़े प्रभावक के रूप में उभरा है, जो वर्तमान महामारी में सकारात्मक और नकारात्मक दोनों रूप से प्रभाव डाल रहा है। भारत सरकार ने भी गलत आंकड़े एकत्र करने तथा बिना किसी तथ्य के कई उपचारों, निवारक मानकों को अपनाने में सक्रीय भूमिका निभाई है जिसे मोबाइल एप्लीकेशन पर भी शेयर किया गया। सरकार को वर्तमान महामारी के सकारात्मक और नकारात्मक दोनों विषयों को ध्यान में रखते हुए

भविष्य की महामारी से निपटने की तैयारियों के दिशानिर्देशों हेतु निति बनानी चाहिए। वर्तमान महामारी में समाज द्वारा अर्जित जागरूकता से न केवल सकारात्मक विषयों पैर सहायता लेनी चाहिए, बल्कि भ्रामक जानकारियों तथा मिथ्या अवधारणाओ के विरुद्ध शिक्षित भी किया जाना चाहिए। किसी भी महामारी का समाज की स्मृति पर पर पड़ने वाले प्रभाव एवं उपयोगिता को समझने के लिए यह समझना आवश्यक है कि देश में पिछली महामारी ने समाज की मानसिक स्थिति को किस प्रकार प्रभावित किया है। सामूहिक जिम्मेदारी मात्र किसी भी बीमारी को हराने के लिए जादू की गोली नहीं है। इसके लिए आवश्यक है कि पिछली महामारी से सीखे गए सबक को भुलाया न जाए, जैसा की स्पेनिश फ्लू के साथ हुआ। इस दिशा में सरकार द्वारा किया गया प्रयास लोगों के जीवन को भविष्य में आने वाली महामारी को कम घातक तरीके से प्रबंधित करने में सहायक होगा। लोगो की स्मृति में इसे लंबी अवधि तक बनाये रखने का सबसे अच्छा तरीका है कि इसे जन–स्वास्थ्य और आपदा की तैयारी जैसी पाठ्य पुस्तकों के अध्यायों में सम्मिलित किया जाये।

प्रमुख शब्द: कोविड–19, महामारी, महामारी, ज्ञान, समाज, बच्चे, जागरूकता।

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Medico-legal Resilience of the Indian Health Care System in the Current COVID-19 Pandemic

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Abstract

This scientific paper discusses the medico-legal preparedness of the Indian healthcare system during the current Corona Virus Disease-2019 (COVID-19) pandemic. The issues that are discussed, among others, are- Is it possible to keep abreast of all the legal knowledge, as notified by the authorities, to contain the pandemic, especially when new laws are being notified in succession? How effective have been the laws governing the Indian healthcare system in containing the pandemic? What are the deficiencies / lacunae in the existing legal system? What are the recommendations, if any, for future improvements? To attempt to answer these and related questions concerning the healthcare funding, infrastructure and the laws in place and those enacted recently to deal with epidemics/ pandemics in India are studied, and broadly compared with other countries. The mechanism of the Indian legal system to deal with the pandemic includes- The Epidemic Diseases Act of 1897[1], The Disaster Management Act of 2005[2], The Indian Penal Code (IPC). It is concluded that there are deficiencies in the existing legal framework needed to effectively deal with the Indian healthcare and therefore, an urgent need is felt to amend the Constitution of India in order to formulate a National Health Emergency Act; and the need to increase the budgetary allocation for medical and health services, in order to increase the medico-legal resilience of India.

***Kew words**: Medico-legal resilience, Health care, COVID pandemic, Legal system, WHO.*

Introduction

In December 2019, the world was caught unawares and unattended with the report of 80 cases of a coronavirus-linked illness in Wuhan, China. Soon the World Health Organization took note of it, and the entire world was informed of the disease called Corona Virus Disease-2019 (COVID-19) caused by the SARS-CoV-2 virus. It is an infectious disease with no or little symptoms, if symptomatic could quickly worsen the condition and prove fatal, doubtful methods of transmission, poorly understood pathophysiology, no definitive treatment, continuously evolving (more than 30 known mutations in 5 months), no vaccine, and worrisome preparedness of the health and legal systems worldwide specially in India. The health and legal preparedness is known by the simple fact that there have been more than 2000 major notifications relating to the health management of the disease by the health and law authorities of

India in the past 3 months (1 January – 5 March 2020) including 119 by the Ministry of Health and Family Welfare, Government of India (MoHFW, GoI)[3] and 1529 by all the Indian states[4]. The World Health Organisation (WHO) declared coronavirus disease as a public health emergency of international concern on 30 January 2020.

The guidelines to manage COVID-19 disease have been changing almost on a daily basis. In the legal category, there have been a total of 400 orders- 43 orders by GoI[5]; 357 by all the Indian states[6]. It is required by each citizen (who is interested in availing services), and each stake-holders (who is empowered to provide services especially in the health, executive, law-enforcing sector, and administrative sector) to be abreast of all the notifications for effective and successful management of the pandemic.

The Epidemic Diseases Act of 1897 that governs the healthcare emergencies, has proved to be insufficient in addressing the current epidemic. There is meagre central government power; mostly it is the states which have a role under this Act to devise their own regulations. Precious governmental time has been lost in deliberating over the applicability of this Act in India. Although the current pandemic has been 'included' under a 'disaster' as defined under the Disaster Management Act of 2005, it is clear from the laws of the land that India does not have a dedicated law to deal with a pandemic. Had the government decided to go ahead with the provisions of the Epidemic Diseases Act alone, resilience of the healthcare system would have been grossly inadequate.

India is not among the worst-hit countries yet its grossly under-funded and patchy public health system, with huge variations between the states, poses special challenges for the country's disease containment strategy[7]. These are worrying developments in the backdrop of India's latest containment plan, a 20-page document, which specifically talks about "non-pharmaceutical interventions".

"Quarantine and isolation are important mainstay of 'cluster containment'," the document states. Quarantine refers to separation of individuals who are not yet ill but have been exposed to COVID-19. Therefore, they can be vulnerable to potentially become ill. Isolation refers to separation of individuals who are ill, suspected, or confirmed COVID-19 cases.

Epidemiologists and public health experts say that increasing expenditure in the public health system is key to building trust. The Indian government's expenditure on health as a percentage of GDP still hovers around 1·5 per cent, one of the lowest in the world. "Infectious disease surveillance and in particular, the timely detection and early warning of disease outbreaks are a function of strength and capacity of the health system. This is the time to win the trust of people with a thoughtful approach. This can only be done by increasing the health expenditure by the government as a percentage of GDP compared to what it is now and not just through health insurance. Creating a reliable system with a public health cadre will address these problems", The Lancet has reported.

Global coordinator of the Peoples' Health Movement- a worldwide network of grassroots health activists, points out that fear-based messaging can make a person feel that he or she is responsible for his and her disease. "Stigmatisation hampers persons from coming forward. The messaging should be emphasising that most persons would recover but as there is a small risk, one should take some extra precautions to keep safe. Those who recover would be the greatest corona-warriors for the community". The state of Kerala, which successfully dealt with a NIPAH outbreak just two years ago, offers useful lessons. "COVID-19 treatment is currently focused in government hospitals. In most parts of the country, these hospitals have been underfunded, not patronised by the rich and powerful; and their staff is demoralised. This does

not change overnight. Trust in government is an important component in an emergency health response. We saw what trust can do when we managed the NIPAH response. Kerala has always been proud of the technical quality of its government hospitals. Since 2005, the state government's investment has gone up considerably. Kerala government's AARDRAM project has further raised the profile of government hospitals; "substantial investments have been made".

With limited information coming from the rural parts of the country, only the coming weeks will show the real impact of the current measures[8]. Thermal screening of incoming international passengers from China and Hong Kong was started on 18 January, much before the first case of coronavirus was detected in India on 30 January. As per Information and Broadcasting Ministry on 28 March 2020, the country's response to pandemic has been pre-emptive, pro-active and graded. While Italy and Spain started thermal screening of passengers after 25 days and 39 days respectively, of the first case detected on their soil, India took a proactive stand and commenced thermal screening much before, 13 days earlier than the first positive case of COVID-19 reported on Indian soil. Passengers were screened at 30 airports, 12 major and 65 minor ports, and at land borders, screening 36 lakh passengers in 70 days[9]. The government took swift action to put in place a comprehensive and robust system of screening, quarantine and surveillance as part of its robust response to the public health crisis right from the beginning. This covered every traveller, Indians returning after business or tourism, students as well as foreigners[10].

The healthcare funding in the country is so meagre that the country has had to secure a loan of $1 billion US (approx. 7000 crores) from the World Bank in order to help India prevent, detect, and respond to the COVID-19 pandemic and strengthen its public health preparedness[11].

The questions then arise – is it possible to keep abreast of all the legal knowledge, as notified by the authorities, to contain the pandemic, especially when new laws are being notified in succession? How effective have been the laws governing the Indian healthcare system in containing the pandemic? What are the deficiencies / lacunae in the legal system? What are the recommendations, if any, for future improvements?

Objectives

The objectives of this paper, as far as the COVID-19 pandemic is concerned, are to

(i) discuss the resilience of the Indian health care system, deficiencies in the Indian legal system as far as ability of the rules and regulations to govern the current pandemic is concerned, and
(ii) compare the effectiveness or success of India as a nation in fighting the pandemic.

Methodology

The available literatures, secondary data on healthcare funding, infrastructure and the laws in place and those enacted recently to deal with epidemics/ pandemics in India were studied, and broadly compared with other countries.

Discussion

Mechanisms in Indian Legal System

The Union government is using various measures to prepare and respond to the COVID-19 pandemic[12]. These are:

- Under the Disaster Management Act 2005, in January, it invoked its powers to enhance the preparedness and containment of COVID-19 in hospitals. Notifying the pandemic as a disaster enabled the states to use funds from the State Disaster Response Fund on COVID-19.
- In March, the Ministry of Health advised states to invoke the provisions of Section 2 of the Epidemic Diseases Act 1897.
- As a signatory to the International Health Regulations 2005 (IHR), India needs to establish an appropriate public health response to international spread of diseases. This is done through the Integrated Disease Surveillance Program (IDSP).

However, some of the regulatory provisions provide extensive powers to government officers. For instance, state regulations such as the Uttar Pradesh Epidemic Diseases COVID-19 Regulations 2020, Delhi Epidemic Diseases COVID-19 Regulations 2020 authorise officers of the government to admit and isolate a person in certain situations.

The Indian Laws which Played a Major Role in COVID-19 Pandemic

1. The Epidemic Diseases Act 1897[13]

It is an archaic 123 years old Act which contains four parts, and is described in just over three pages. It is a weak Act, and the powers that the Central government has under this are limited only up to inspection of ships and detention of persons. It is up to the State governments, under section 2, to enact temporary regulations to contain the epidemic.

2. The Disaster Management Act 2005[14]

It is a more broadly based Act of Parliament that has 11 chapters, 79 sections and is described in over twenty-nine pages. As part and parcel of disaster management ("disaster" includes catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man-made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage), it encompasses a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary or expedient for— (i) prevention of disaster, (ii) mitigation of risk, (iii) capacity-building, (iv) preparedness, (v) prompt response, (vi) assessing the severity, (vii) rescue and relief, and (viii) rehabilitation.

It is a more comprehensive Act of Parliament enacted to deal with all calamities. Since there is nothing like a health emergency as per the constitution of India (there are only 3 types of national emergencies viz. (i) national security emergency under Article 352, (ii) state emergency under Article 356 and (iii) financial emergency under Article 360). While national emergency has been invoked thrice, state emergencies have been imposed several times. Financial emergency has never been imposed. It was for the first time that the provisions of the DM Act were used in India to deal with the COVID-19 epidemic[15]. Almost all the powers of the government used to legally manage the current pandemic have been derived from the DM Act through several notifications. While it was enacted to effectively manage all kinds of disasters, it has fallen short of its original mandate and has not been amended in the past 15 years. To name a few, it has fallen short in the following areas[16]:

(a) The High Level Committee (HLC) that takes a final call on assistance to States is based on the recommendations of the Inter-Ministerial Group (IMG). The National Disaster Management Authority (NDMA) has no role in this as in many other matters;
(b) At the time of crisis, the National Crisis Management Centre (NCMC) takes over; the National Executive Committee (NEC) hardly has any role to perform;
(c) The present structure of NDMA is not conducive for carrying out the tasks it has been mandated to perform under the Act;
(d) There is a need to redesign the NDMA's structure, ensuring greater objectivity and transparency in selecting Members;
(e) The NEC, which has been assigned crucial, and multifarious, activities under the Act, has failed to deliver;
(f) There is a lack of functional integration between the NDMA and the NEC on the one hand, and the NDMA and the MHA on the other;
(g) Even the Ministries/Departments of the GOI, including the MHA, have not been able to fulfil the mandate given to them by the DM Act, 2005; and
(h) The NIDM has not been able to fulfil the expectations of States and UTs.

- **National Disaster Management Authority (NDMA)**

National Disaster Management Authority (NDMA) is an apex body of government of India, with a mandate to lay down policies for disaster management. The phrase disaster management is to be understood to mean 'a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary or expedient for prevention of danger or threat of any disaster, mitigation or reduction of risk of any disaster or severity of its consequences, capacity building, preparedness to deal with any disaster, prompt response, assessing the severity or magnitude of effects of any disaster, evacuation, rescue, relief, rehabilitation and reconstruction'[17].

NDMA was established through the DM Act 2005[18]. NDMA is responsible for framing policies, laying down guidelines and best-practices for coordinating with the State Disaster Management Authorities (SDMAs) to ensure a holistic and distributed approach to disaster management[19]. It is headed by the Prime Minister of India, and can have up to nine other members[20,21]. NDMA runs various programmes for mitigation and responsiveness for specific situations. India has become the first country to partner with the social networking giant Facebook on disaster response.

The Comptroller and Auditor General (CAG) indicted the NDMA for being ineffective in carrying out most of its functions. NDMA had neither had information and control over the progress of disaster management work in the states, nor could it successfully implement various projects it had initiated for disaster preparedness and mitigation. The CAG report also highlighted several other loopholes in the functioning of NDMA. It said none of the major projects taken up by NDMA was complete even after seven years of its functioning. The projects were either abandoned midway or were being redesigned because of initial poor planning. In fact, former Army Chief Lieutenant-General, quoted regarding the source of resistance within the ministries that "the feeling within the bureaucracy that India didn't need something like the NDMA because the various ministries were essentially doing the same job[22]." It has been reported that the logistical problems the present government is facing due to COVID-19 outbreak with regard to the NDMA plans could have been mitigated, including chronic shortages of protective equipment for medical staff and

ill-trained first-responders[22]. In view of the above, (i) there is a need to revisit the role, function and structure of the NDMA and NEC.

3. Indian Penal Code (IPC)

Section 188 of IPC deals with offence of going against the order of a public officer has been widely used during lockdown, especially to prosecute people breaking the lockdown rules. Since the commencement of the lockdown in March, many people were violating law and exposing themselves and others to the risk of the pandemic; and Section 188 gave powers to the authorities to book those citizens under this law. Section 269 deals with negligent act which is likely to spread infection of disease dangerous to life. The authorities have been relying on this section when they need to deal with people who unknowingly are responsible for the spread of this disease. For example, people returning from foreign countries hiding their travel background, organizing events. Section 270 deals with acts done intentionally and knowingly with an intent to spread the disease or any act done to destroy public health. This section has been applied against many accused but those cases are still pending in courts. Section 271 deals with disobedience to quarantine rule. This section is related to Section 188 of the IPC which discusses what happens when someone is disobeying a public officer.

4. National Health Bill 2009

The Government of India took a landmark decision when it decided to introduce the National Health Bill 2009. The bill recognizes health as a fundamental human right and states that every citizen has a right to the highest attainable standard of health and well-being. The constitution of India, under Articles 14, 15, and 21, recognizes the right to life as a fundamental right and places obligations on the Government to ensure protection and fulfillment of the right to health for all, without any inequality or discrimination. The basic tenets of the Bill include the peoples' right to health and healthcare, the obligations of the governments and private institutions, core principles/norms/standards on rights and obligations, the institutional structure for implementation and monitoring, and the judicial machinery for ensuring health rights for all. The bill provides itemized lists of the obligations of the central and state governments. Chapter III of this bill provides elaborate rights to health care, including terminal care, for everyone[23].

A heartening point of the bill is that no person shall be denied care under any circumstances, including the inability to pay the requisite fee or charges. Prompt and necessary emergency medical treatment and critical care must be given by the concerned health care provider, including private providers. As per the bill, the health care provider, including the clinician, would be obligated to provide all information to the patients regarding the proposed treatment (risks, benefits, costs, etc.) and any alternate treatments that may be available for the particular condition/disease[24].

There is a clause in chapter III that demands that the user (i.e., the patient) respect the rights of the health care providers by treating them with respect, courtesy, and dignity and refrain from any abuse or violent or abusive behaviour towards them or to the rights provided to them. The bill envisages the establishment of National and State-level Public Health Boards to formulate national policies on health, review strategies, and ensure minimum standards for food, water, sanitation, and housing. These boards would also lay down minimum standards and draw up protocols, norms, and guidelines for diverse aspects of health care and treatment. The bill provides for elaborate mechanisms for monitoring at the government and community levels.

The National Health Bill- 2009 was similarly targeted at providing an overarching legal framework for the provision of essential public health services by recognising health as a fundamental right. It also provided for a response mechanism for public health emergencies by outlining a collaborative federal framework. However, these did not lead to a legal structure as states considered it an encroachment on their domains[25].

Need to Amend Constitution to Insert Health Emergency- Requirement to Create a National Health Emergency Act to Increase Medico-legal Resilience and Ancillary Requirements

When first spike of cases was reported by China in late December 2019, nobody even thought that some virus that originated in China would eventually cause a war-like situation worldwide. While it started showing its presence all around the world, it arrived in India in late January 2020, when our country was getting ready to welcome the US President. Anyone attending the Namaste Trump event did not have even the remotest idea as to how even one contagious person could have proven fatal for almost all present in that event. Even, a casual attitude towards this disease-virus was seen among some people who thought this disease was spreading only to non-vegetarians or to people who were based outside India. Contrary to their belief, it arrived in India. Slowly novel coronavirus started setting its feet in India with number of cases rising to almost 500 by mid-March 2020. Till then, world leaders had started accepting the fact that COVID-19 situation is much more deadly than World War-II.

On 23 March 2020, when our Hon'ble PM was about to address the nation regarding the pandemic, and considering the circumstances, it was thought that a health emergency would be declared. Instead, the PM declared a lockdown, something similar to a national 'emergency' but not exactly an emergency. It can be said that due to lack of proper legal framework, such a step was taken. In a country of 1.3 billion people, it was better taking action at this point in time than waiting for an apocalypse like situation. During the spread of Spanish Flu during the First World War, the world saw 20 million deaths all together out of which 10 per cent of the total deaths i.e. 2 million casualties were from India alone. Medical backwardness, lack of sanitation facilities and lack of concern of Britishers were the main reasons for the mayhem back then.

Comparing that era to today, in terms of medical and healthcare facilities, we're almost on the same footing and very far away from even being considered a medically-safe environment. Out of 157 countries, India stands at 153 in terms of medical and health care facilities, even though 1.5 per cent of the annual budget is allocated for medical and health care facilities. On an average, India has 1 bed for almost 10,000 people. This figure depends upon different locations and states.

Italy, which stands on 2nd rank out of 157 countries in terms of medical services, was going through an apocalypse like situation. Medical teams were worn out, doctors were not able to attend each and every patient due to lack of ventilators as well as health workers. Elder patients were left to die to save younger patients. Taking cue from all this, eventually India also had to undertake strong measures to curb the rise of cases of COVID-19. The lockdown in that sense has proved to be meaningful.

India went to total lockdown on 24 March 2020. The lockdown can be considered both unavoidable and unprecedented. Unavoidable because, taking cue from countries like Iran and Italy, where novel coronavirus was causing mayhem, India being home to 17.7 per cent of the world population will not be able to support such huge amounts of cases all-together. Unprecedented because the pre-planning, which should have been done before declaring lockdown was later proven disastrous.

Why Constitution Should be Amended to Add Clause of Health Emergency?

Emergency is declared when there is a war or an armed rebellion, or when parliamentary/state executive machinery fails or during financial emergency. Basically, as the word defines, it is declared when a nation is going through unprecedented situations, where security and integrity of India is at stake. But never had any person involved in drafting of the constitution ever imagined that a need to declare health emergency would ever occur, even though only 30 years before the constitution was being written, India suffered through the Spanish Flu pandemic.

In an emergency, powers of state machinery get revoked until the emergency is removed and powers to govern passes to the hands of the Governors with respect to the states and to the President with respect to the nation. Such provisions have been defined in the Constitution so that any unprecedented situation could be handled effectively. Except for Right to Life and Personal Liberty, all other fundamental rights are suspended during emergency. Power to declare any ordinance, law and authorization for the time being of emergency lie in the hands of the President so that one law is proclaimed throughout the territory of India.

India invoked lockdown using Section 6 of DM Act. Section 6 doesn't talk about lockdown or rather it doesn't define lock down at all. It just gives National Authority the power to declare guidelines for such incidents where a disaster has to be averted. Some understanding of the word lockdown can be drawn from Section 2 and 2A of Epidemics Diseases Act, which gives powers to Government (State/Central) to undertake steps to prevent outbreak of an epidemic. The main problem with Disaster Management Act is that it was declared to avoid mishaps caused due to disasters like earthquake and tsunamis but not a pandemic like COVID-19. Its clauses were not fully equipped to handle a situation which was created by novel coronavirus. In reality, there's no law under which government can declare a lockdown. In the present scenario, lockdown was declared; and then the law under which it was declared was decided. The Ministry of Home Affairs (MHA) declared COVID-19 as "notified disaster' thereby bringing it under the scope of DM Act but that didn't give government enough powers to control the spread of COVID-19 efficiently. As on 10 May 2020, India's figures stood at total 62,000 cases of COVID-19 which means even after declaring lockdown, the spread of the disease was not contained. The reasons for the same have been- inadequate supply of medical facilities, medical supplies, breaking of quarantine rules, travelling of migrant workers who were left stranded in different cities due to loss of work, people hiding their travel history and lack of knowledge regarding the spread of the virus. Patients were also not getting identified as they were asymptomatic in whom infection starts showing effect later than the normal course; thus, they go infecting many others. This disease is considered a pandemic or deadly disease due to its rate of transmission. Considering all the factors, the present legal framework lacks in provisions to handle the COVID-19.

Now considering, had there been a clause of health emergency already declared in our constitution, not only the spread of disease would been contained but the causes of spread would have also been minimised. There would have been one proclamation regarding policies, strategies, ordinances and laws throughout the territory of India. States would not have been accusing the Central Government for lack of funds or non-release of funds; one proclamation would have been declared for transportation of stranded workers or habitation of those stranded workers, funds would have been released and used more diligently, and proper distribution of medical supplies would have been ensured. Safety of health workers would have been ensured since there would have been no politics involved in releasing funds or medical supplies, there won't be locking of state borders which would have not created havoc or unplanned situation where neither goods nor people can pass through the borders. Many more factors requiring efficient management

of pandemic could have been ensured if the power to proclaim a law or authorising power would have been a single source.

Need to Formulate a National Health Emergency Act

In consonance with the addition of health emergency in the Constitution, a National Health Emergency Act should be formulated which would help as a backbone of legal framework during a health emergency. Though powers to promulgate and create ordinances and laws, as situation demands, would eventually lie with the President, to create a democratic process to follow so that there's no place for undemocratic processes in the midst of a crisis would be ensured by this particular act. It would define duties of public officers, hospitals, healthcare workers, National Health Emergency Response Team and other servicemen who would be eventually important to fight COVID-19 like pandemics in future. Health Emergency Act would be legal framework and would define each and every function of each and every person who would eventually get involved in the fight against the epidemic.

It would also fill the existing gaps in legal framework. For example, the Bombay High Court recently gave a judgement in which they said that police personnel should not arrest people just for any arbitrary cause during the lockdown or they should not arrest people under the pretext that they would break quarantine rules. Police personnel all over the country are facing such circumstances for the first time and are inexperienced in handling such circumstances. An Act would be beneficial for explanation of duties of police personnel too.

Similarly, doctors and health professionals who are facing discrimination and violence from their neighbours, patients and people living in the society, that Act would fill the gap there as well as it shall ensure the rights of health professionals, who are the first line of security in a health emergency. They can be compared with soldiers and border security personnel who are the first line of defence in times of a war.

In such scenarios, worst hit are daily wagers. In present times, people who faced the most problems are migrant workers, who have travelled very far away from their homes to earn a living. Such people are left jobless and eventually hopeless in lockdown. To tackle such a situation of migrant workers; their rehabilitation, ensuring their safety as well as employment, this particular Act would give guidelines on ensuring above mentioned securities to migrant workers.

Such an Act would also impose harsh penalties and punishments for people disobeying quarantine rules. For example, during the initial days of lockdown, people were considering it as a holiday and were roaming around on streets. A proper Act of Parliament would ensure that such things are not acceptable and must not be repeated by the violators. It would have civil as well as criminal liabilities depending upon the extent of the crime.

Another problem which could be solved by such an Act would be patients who have diseases which require urgent medical help or regular medical help are also one of the sufferers in times of pandemic. For example, during the last days of April, a person died in Agra because he was devoid of dialysis. He required dialysis in every 15 days and when the time arrived for his dialysis, he was not able to get it done because of the government guidelines that required every hospital/private clinic to get COVID-19 test done before admitting a new patient. He roamed around the city approaching many private hospitals and sole government hospital in the city but in vain and eventually died. Similarly, a six year old boy fell from roof and his father roamed around city of Agra to get his son admitted, but each hospital denied admittance to

his son on the basis of the above-mentioned guidelines. If there is an Act which takes into consideration such scenarios too, life of such people who died due to Non-covid reasons could have been saved.

Another important aspect of resilience in times of pandemic is the economy. Though life is not bigger than money but to survive and to fight such pandemics, money is an essential commodity. The act would have proper guidelines to help businesses survive through this period, especially traditional businesses, MSME and industries related to health facilities/products so that a gap is not created between supply and demand of medical and hospital related services and products. The act would act as written guidelines so that no confusion or commotion is created in times of a pandemic.

Need to Increase the Budget Allocation for Medical and Health Services

In a big country like India, where 20 per cent of the world's population is residing, allocating only 1.5 per cent of the annual budget for medical services is a meagre amount and as such would not able to sustain the ever-increasing medical demands. The United States' health care expenditure amounts to US$ 10,000 whereas India's amounts to US$ 62 per capita which is less than INR 5000 per capita. With a vast difference in per capita expenditure and comparing population of US with India, India lags behind enormously. In the real case scenario, with a huge population like India, government should at least be spending more than the second-placed Luxembourg. Real development of a nation is directly proportional to health of its citizens.

In India, the population is very unevenly distributed, and mostly resides in villages which not only lack sanitation facilities but also have very limited access to healthcare facilities. If the COVID-19 pandemic would have reached our villages, then it would have been a bigger mishap than it is at present because the world's largest democracy would then not have been in a position to cater facilities to more than half of its population. The scenario is same for small towns and cities.

If India increases its allocation from 1.5 per cent to 5 per cent, it would be able to fill the existing gaps in India's health care services. It would be able to re-construct government hospitals which have pending renovations and reconstructions since ages. It would be able to establish a National Health Emergency Response team to combat COVID-19 like situations as well as they would be able to give free public health care to its citizens for common diseases. In this age, where bio-weapons is a reality and India has been facing threat to its security and integrity for several years as well as the fact that India has been in a constant struggle on its front in two different directions on land; in a war-like scenario, possibility of a chemical war always looms on India's head and India should be well prepared to face such scenarios but scanning through present India's healthcare services, any such chemical war would create a similar condition as COVID-19 pandemic has created, where avoidable loss of lives would take place.

Taking into account the pandemics record in India, Indian government should have kept the evolution of healthcare services on top of their priority after independence. Corruption also accounts for gaps in the Indian healthcare services. Lack of funds, corruption, non-allocation of funds and every other reason is now showcasing limitations of Indian healthcare services which the Indian government should have taken care of and should have not waited for apocalypse like situation like COVID-19 on its head.

COVID-19 has actually shown true position and reality of the Indian health infrastructure. With 1 bed per 10,000 people; if the conditions like Italy, Iran, US or China duplicates in India, then it would have a more devastating effect than any of these countries. Indian government should take cue from the present

conditions, and pledge to allocate more in the upcoming annual budgets so that India is ready to face such pandemic-like situations in future.

Conclusion

The Indian response to COVID-19 has been fragmented[26]. Multiple laws, rules, programmes, regulatory bodies along with national and state level advisories participate in the response. The Epidemic Diseases Act has been a subject of debate as calls for government action grows. Instead of building a public health framework, the limited purpose of the Epidemic Diseases Act is for the states to take special measures for dangerous epidemic diseases. Within this limited framework, the law gives wide powers to the government to undertake coercive actions against the individuals. Indian states have notified COVID-19 regulations under this law. There are unmitigated powers of surveillance, and use of force is given to state authorities under them. While such powers are envisaged to be used under the legitimate aim of protecting the health of the population, neither the law nor the regulations under it describe procedural guarantees against the abuse of state coercion.

Using examples of Indian states and past utilisation of the regulations, it is seen that the states can realign their COVID-19 regulations to balance the rights of the individuals with their own power. This is important as emergency public health measures require community trust and participation. In order to mandate using such procedural best-practices in the future, a comprehensive legal framework for epidemic preparedness and response is required instead of the current fragmented response framework through programmes and missions. This is required to increase the accountability of the government to its people. It is imperative that such a law is passed by the union government while providing states power to utilise their public health framework.

Declaration: There is no conflict of interest.

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वर्तमान महामारी कोविड–19 में भारतीय स्वास्थ्य देखभाल प्रणाली की मेडिको–लीगल रेजिस्टेंस

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सारांश

इस शोध पत्र में वर्तमान महामारी कोविड–19के दौरान भारतीय स्वास्थ्य देखभाल प्रणाली की चिकित्सा–विधिक तैयारियों के बारे में चर्चा की गई है। इस शोध में निमनलिखित मुद्दों पर चर्चा की गई है– जैसा कि प्राधिकारियों द्वारा देखा गया है कि महामारी को रोकने के लिए क्या सभी विधिक–जानकारियों की समान रूप से रखना संभव है वह भी तब जबकि सत्र में नए–नए कानून देखे जा रहे हो?, महामारी को रोकने में भारतीय स्वास्थ्य प्रणाली के कानून कितने प्रभावी रहे हैं?, वर्तमान कानूनी व्यवस्था में क्या–क्या कमियां हैं?, भविष्य में सुधार हेतु क्या संस्तुतियां हैं?, इन सबका उत्तर देने के प्रयास हेतु तथा स्वास्थ्य देखभाल वित्त एवं संरचना से संबंधित प्रश्न तथा भारत में हाल ही में अधिरियमित किए गए कानूनों पर अध्ययन किया गया तथा अन्य देशों से इसकी तुलना भी की गई। महामारी से निपटने के लिए भारतीय विधिक प्रणाली में महीमारी रोग अधिनियम 1897 तथा आपदा प्रबंधन अधिनियम 2005 शामिल है। यह निष्कर्ष निकाला गया है कि भारतीय स्वास्थ्य सेवा से प्रभावी ढंग से निपटने के लिए मौजूदा विधिक संरचना में कुछ कमियां हैं अतः भारतीय संविधान के राष्ट्रीय स्वास्थ्य आपातकाल अधिनियम में तत्काल संशोधल की आवश्यकता है। भारत की चिकित्सा–विधिक को और मजबूत बनाने के लिए चिकित्सा और स्वास्थ्य सेवाओं के लिए बजट आवंटन में वृद्धि करने की आवश्यकता है।

प्रमुख शब्द: मेडिको–लीगल रेजिस्टेंस, हेल्थ केयर, कोविड–19 महामारी, कानूनी प्रणाली,

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