

# Sociological Approaches in Managing Pandemics

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## Abstract

The aim of this review was to evaluate published research on sociological approaches in managing pandemics. A search of Google Scholar yielded 34 papers. These were reviewed under the sections of Covid-19 sociology, General, Earlier pandemics and Covid-19.

The 30 papers were equally distributed between earlier pandemics and Covid-19. Most papers used qualitative methods, thus preventing the scope for meta-analysis. There was a tendency to assert primacy of sociology above medical sciences. Only a few papers dealt both with equanimity. The evidence presented for many conclusions were more rhetorical than based on sound data as conclusions exceeded what the data really revealed. There were some discursive arguments in some papers, which demonstrated some uncertainty about the line of argument they would like to follow. However, the sociological points of importance were not lost, as they are too important to overlook. In some papers, practical aspects were lost to too theoretical treatment of the subject.

The uncertainty of risk, progress and end of pandemics compel governments to implement short-term strategies as the pandemic progresses. The effectiveness of communication with public about the measures they need to adopt its spread and protect themselves and use of vaccines require consideration of trust, acceptability and perceptions about practicability among the public. Deliberate falsification attempts by some people and even media and non-compliance with instructions will affect the efforts to control the pandemic.

It can be concluded that there is a need for a healthy combination of sociology and medical sciences to enable governments and public health departments to deliver most effective care, protection and prevention strategies.

**Keywords:** Sociology, Covid-19, Pandemic Management

## Introduction

Sociology is the study of human social relationships and institutions. American Sociological Association defines it as, “the study of social life, social change, and the social causes and consequences of human behaviour.” Sociologists cover a wide-range of activities. They investigate the structure of groups, organizations, and societies. They also study how people interact within these contexts. As human beings are social animals, their entire behaviour is within the range of sociology. Sociology deals with the relationships in intimate family to the hostile mob. It also deals with the range of organized crime to religious traditions. It covers the divisions of race, gender and social class to the shared beliefs of a common culture (ASA, 2020).

The word pandemic means the prevalence of a disease in an entire country, a large region or the world. The classical epidemiological definition of a pandemic is, “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people”. (Doshi, 2011) (p 533- Table 1).

Therefore, sociological approaches in managing pandemics should include finding out how new and re-emerging public health problems are socially constructed or connected; social aspects related to the development of surveillance systems and public health management; to what extent scientific and technological modalities impact on uncertainty and risk; the type and nature of interactions and outcomes due to the interactions among an infectious disease, public health, national security concerns, and response of public and media (Dingwall, Hoffman, & Staniland, 2013).

### **Covid-19 Sociology**

To illustrate the relationship between sociology and pandemic, some observations related to the sociology of the current pandemic Covid-19, were discussed by Al-Basam (2020). Sociologists dispute the claim of medical scientists and practitioners as pandemic is their exclusive domain. Medicines and biomedical sciences should be related to the world of their very existence. Mistakes in national and international policies on pandemics can lead to serious harm and both these institutions are social institutions. (This point may be disputable, as the two institutions are better described as political institutions rather than as social institutions). Policies are implemented in social organisations by competent practitioners within a division of labour and are socially organised. The delivery of policies takes place through other organisations and social interactions among innumerable partners. Pandemic problems come to the attention of medicine and biomedical science along socially constructed pathways. These are delivered into the world by pathways of knowledge or technology transfer, which are social processes. In connection with coronavirus, social reactions like anxiety, fear, panic and stigmatisation occur. Social actions are required to mitigate them at population dimension. A variety of adaptive actions in the daily work and life culture happen such as wearing masks, social distancing, restrictions on gathering of people, working from home, online shopping and telemedicine. The disruptions caused to daily life by a new epidemic justifies such changed behaviour as rational what was earlier irrational. The social aspect of pandemic itself has its own epidemic nature, which is separate from the epidemic of disease. These social pandemics can spread among people just like an epidemic. Fear, stigmatisation and moralisation are three variables which have been used for modelling sociology epidemic. Applying them to coronavirus, in the earliest stage, the likelihood of coronavirus spreading from Wuhan province of China to other parts of the world was already expected. Perception of this risk contributed to fear and governmental actions to pre-empt or control the disease at its early stage of arrival in the country. The epidemic of fear (and anxiety and suspicion) had characteristics similar to the epidemic itself. Obsessive new habits like washing hands or frequent sanitisation and wearing masks replaced socially empathic actions like shaking hands and kissing. The concern regarding the virus went beyond the concern for cleanliness. As it became clear that many different ways of infections are possible, irrational phobia developed on anything in the environment. When the trajectory of a threat is unknown or uncertain, a feeling of things going out of control developed. Gradual spread is more serious than sudden spread and getting it all over. The slow spread of the disease kept people fearing when and how it will affect them personally. Uncertain becomes unpredictable and unsafe. However, an interesting paradox in the case of coronavirus is that the more the people seek out and get information, the more they become concerned. Fear and suspicion are completely separated from the reality of the epidemic when rumours and false news are spread through social media. Such panic is expressed even by those nominally best informed about the epidemic. Two levels of thinking happens here: one of rational mind but also affected by primitive instinct and gut feeling

due to herd instinct and the other when judgement gives way to doing what others are doing. Stigmatisation and moralisation can result from xenophobia. It can originate from fear, suspicion and irrationality domains of psycho-social behaviour when faced with epidemic. The concept of “behavioural immune system” is relevant here. It means, our biological immune system is not sufficient to help us avoid infections, as we are unable to see the microbes like bacteria or viruses. Behavioural immune system is a psychological system that facilitates the person to detect pathogens by looking at cues. The fear of people of other races or immigrants is now linked with the coronavirus as an immune system. A belief is spread that corona virus is linked to a particular race etc. The start of corona in China led to stigmatisation, avoidance, fear, hatred and harassment towards all Chinese origin people and was extended to all people of Asian origin. Chinese and Asians were asked to return to their countries of infection. Chinese foods were detested. Politicians like Trump contributed to it by calling it as Chinese virus and issuing statements of blame against that country. This was countered by activists asking to fight against the virus rather than against people. Along with such stigmatisation, moralisation also happened by ascribing divine reasons to the virus by some religious factions as punishment by god for our sins, an act of Allah as a divine punishment against the Chinese for their treatment, mockery, and disrespect towards Muslims and Islam. Sociological theory on community response to corona include morale boosting dance and music, washing hands videos, funny videos, corona games, The need for survival leads people to be socially grouped together to deal with daily life restrictions and quarantine requirements. However, mistrust between people and a government in some countries is a cause of concern. Many reasons exist for this mistrust. There are inequities, lack of accountability and transparency of perennial and deep nature and inadequate and inaccurate communication of governments with people creating mistrust, fear and panic in a crisis situation. Some governments make false claims about their preparedness, when, indeed, there is no visible genuine readiness to handle outbreaks and this leads to mistrust.

The above description demonstrates the need to add sociological focus to the current healthcare dimensions of managing pandemics. To identify the possible sociological approaches to manage pandemics, it is necessary to review the works already done in this area. With this aim, this paper is organised in the following manner. First methodology of identifying literature is described.

## **Method**

A search through the first five pages of Google Scholar using the title itself as the search term provided 34 useful papers. Four of them were used in the above sections. The remaining 30 are discussed under the three sections of General, Earlier pandemics and Covid-19 below.

## **Results**

### **General**

Sometimes previously settled and non-controversial issues may assume fresh dimensions guided by national or global forces when pandemic management is done. Social distancing in quarantines and control of risks to public health in pandemic contexts were examined by Carney and Bennett (2014). Tension between scientific and popular media perceptions and communications were evident as public acceptance of social media posts is increasing. After examining the role of culture in determining borders of restrictions and control, the authors highlighted the necessity for adding the sociological dimensions to the rational-scientific

approaches in pandemic management. A public health policy rooted in science, culture and public perceptions was suggested as the more effective approach in this respect.

### **Earlier pandemics**

Of all sections of people, the most vulnerable section may be pregnant women. During the 2009 H1N1 pandemic, women in the third trimester of pregnancy were identified to be at risk of serious respiratory problems. These women were advised vaccination, avoid contact with other infected persons, follow hygiene routines and not to smoke. This public health risk management advice was supported by the women. However, vaccination was thought to be troublesome. Social distancing was welcomed as a good risk moderation strategy. Management of the intersection of individual pregnancy timelines with the pandemic's timeline, was also an important risk management tool (Lohm, Flowers, Stephenson, Waller, & Davis, 2014).

To address the threat of the pandemic influenza, the Australian public health policy on risk was shifted from insurance against risk to preparedness to control risks and impacts. Population level interventions were required for insurance based risk control. On the other hand, preparedness involved actions to protect infrastructures, ensuring political economic continuity and discontinuous but effective local level responses by medical experts. The need to evaluate socio-historical context of the pandemic was avoided in preparedness approach. However, Wraith and Stephenson (2009) postulated that ignoring sociological aspects may not help to tackle inequities. Securing the nation is of paramount importance.

In one paper on HIV/AIDS, the Pressure and Release (PAR) model was used by Tsasis and Nirupama (2008) to predict the onset of disasters by substituting vulnerability and risk perception as the trigger factors to prove that HIV/AIDS is a slow onset disaster case. This means, vulnerability needs to be reduced by addressing root causes, dynamic pressures, and unsafe conditions related to the HIV/AIDS pandemic. HIV/AIDS programs must be culturally appropriate and work toward influencing risk perception, while addressing social norms and values that negatively impact vulnerable populations. By impacting cultural and social expectations, individuals will be able to adopt safer sex behaviours more readily. Broad issues related to the population rather than targeting individuals should be more appropriate and effective.

Using sociology of uncertainty framework, Davis, Flowers, and Stephenson (2014) analysed the practical, scientific and political challenges for public health agencies around the world in handling the H1N1 pandemic of 2009. The death of about 18449 people due to H1N1 in 2009 was mild compared to the annual death rate of 250000 to 500000 due to seasonal influenza. Being a mild pandemic, UK health authorities said that they did what they felt right at that time perhaps driven by the fear of uncertainty and wanted to err on the safe side. Public health strategies of response and control of pandemics were always beyond the normal course. Difficulties in this respect arise from the lack of predictability of recurrence in future.

A narrative analysis of the criticisms on mass vaccination against H1N1 virus in the debates of the Council of Europe was done by Abeysinghe (2015). The analysis revealed three dominant narratives: problematizing the use of vaccination as a public health response; criticising the efficacy of the vaccines; and questioning the safety of the strategy. Clearly, these types of criticisms can affect development of vaccines itself and its consequences on pandemics could be serious.

Maunula (2013) used Foucault's notions of governmentality and biopower to critically examine the goals of two Canadian public communication strategies for pandemic planning and infection control. The public health communication campaign goals leaned heavily on the conceptualization of health as an individual/family duty and that scientific/medical expert knowledge as the most appropriate tool for guiding pandemic planning. The author pointed out to the social, cultural, ethical and political dimensions involved in a pandemic which determines the effectiveness of such communications to the public.

The big uncertainty of influenza virus with respect to the challenges of diagnostic and surveillance procedures can be handled only by scientific methods. During the pandemic influenza, the general public are asked to practise non-pharmaceutical infection control measures like hygiene and social distancing. Using the concepts of manufactured risk and ontological insecurity, Lohm, Davis, Flowers, and Stephenson (2015) tried to evaluate the nature and extent of understanding of the 'fuzzy' nature of the influenza virus to reconcile with infection control measures. The results of the Interviews and focus groups in Melbourne, Sydney and Glasgow revealed their perceptions regarding the difficulty of avoiding infection from influenza. Problems in accurate diagnosis and infection control measures proposed by public health messages were recognised to be due to the 'fuzzy' nature of the virus. Yet, people valued the public health recommendations due to the security against the uncertainty risk of virus infection rather than being convinced about the effectiveness of the recommendations.

The Australian newspapers raised the issue of continuously emerging nature of pandemic influenza as a specific danger to nation building. The nation was projected as successfully securitising itself against the disease spread from Asia as the effectiveness of international health organisations were in question. This discourse reflected the continuous projection of readiness to react to disasters achieved through the networking of government and private agencies responsible for maintaining critical infrastructure. Health became the central focus of national security. Reasons or implications of this alliance were not considered (Stephenson & Jamieson, 2009).

Large urban cities behave as city-states much like the old Greek systems, even if they have lost considerable power to the national governments. In this respect, the relevance of Weber's theories on institutional structures of cities becomes clear. Hoffman (2013) examined New York City's response to the 2009 H1N1 pandemic in the context of the post-9/11 US security regime. The federal level approach of 'all-hazards' had greater depth of support. But there were unrealistic assumptions in it which were misaligned with an effective local response. The combined strength of structurally induced opportunity and actor specific factors like size and expertise could achieve effective local governance by the Department of Health and Mental Hygiene of New York City. These observations highlight the importance of locality as a first line of defence with links to state public health governance for efficiency of its defence function arising from policy initiatives.

When the pandemic A/H1N1 influenza struck the country, the French people did not panic. To understand the reasons for this, Sherlaw and Raude (2013) used a sequence analysis framework into which innovations diffusion theory, surprise theory and social representation theory were integrated. It was noted that the frames related to disease episodes, public health policy and the public's response should be considered. A larger socio-cognitive frame should be used which incorporates experiences and lessons learned from prior disease episodes and campaigns. There existed a persistent anchoring of the social representations of the pandemic threat to the 1918

Spanish flu in common and scientific media. This factor had influenced the persistent anchoring nature of social representations and the public response was influenced by this. These media representations did not match reality and therefore, the public did not panic. The counterproductive nature of alarmist framings of health threats could reduce the capacity of public health organisations to mobilise the public if and when the disease becomes more serious.

During a crisis situation, the newspapers and other mass media are used by people to be informed about the latest situation and advice on the crisis. Mass media are inexpensive and accessible. Mass media, on their side, attempt to package the news to help health authorities to reach the target audience. This is done by mass media using framing and other strategies to assist in controlling and minimising the spread of the disease. Kee, Ibrahim, and Mustaffa (2010) undertook framing analysis of four Malaysian mainstream newspapers- Utusan Malaysia, New Straits Times, The Star and Berita Harian with respect to H1N1 pandemic for the period of 23 April to 29 July 2009. To what extent the newspapers are involved in framing a pandemic was also analysed. Terminologies selected for framing analysis were: H1N1, Swine flu and both together. News frames of responsibility, conflict, morality, economic consequences and human interest were used with high score indicating high level of using these frames. In all the four newspapers, responsibility frame scored highest, followed by morality. Economic consequences frame was the least covered topic. The newspapers supported the government actions in this manner.

In the findings of Davis, Stephenson, Lohm, Waller, and Flowers (2015) from Australia, on the part of study participants, there was no resistance to public health communications, but only in the interpretation and implementation of guidelines. In their approach to pandemic risk (H1N1), high level of individualistic approach was noticed. Risk to self, but not risk to others was the main criterion to adopt hygienic, social isolation and vaccination strategies. Management of respiratory problems were always feminised. Women in their elaborate descriptions referred to H1N1 as 'man flu'. In this scheme of gender roles, women may be expected to do infection control and symptom management and men may be expected not to show their symptoms and 'soldier on' or they may face accusations of 'man flu.' The uniform implementation of social distancing and other protective measures may therefore be compromised. People tended to excessively rely on perceptions of being far away from risk, expected fast recovery from infections and practical problems of vaccination. For pregnant women, everything centred on the wellbeing of the baby. As individuals had to go to hospital to receive vaccination, they were at increased risk of infection by the same virus in the same hospital environment. A catch 22 situation arose here.

In an analytical paper, Cornia, Gherseti, Mancini, and Oden (2016) compared media reporting of the 2009 swine flu pandemic in Sweden, Italy and the United Kingdom, Some general patters were noted in the journalism culture of the three countries. One of them was, the similarities detected in the amount of media attention and the timing of the spread of the virus, interpretable as a confirmed globalisation. The other was the differences in interpretations of professional journalism provided, by the way this issue was covered in the three countries. There were political overtones in the media coverage of swine flu in Italian and British newspapers. The journalists questioned the government's management of the pandemic in these two countries. The Italian media criticism strictly reflected the political affiliation of the newspaper. A watchdog function was performed by the British newspapers, which was independent of political

affiliation. The Swedish newspapers were more focused on the technical dimensions of the issue and were not interested in evaluating the authorities' choices.

The term "digital pandemics," is used to denote the rapid and far-reaching spread of unrestricted and scientifically inaccurate health information across the web through social network. In an example study on fluoridation, social spread of scientifically inaccurate health information across the Web was noticed by Seymour, Getman, Saraf, Zhang, and Kalenderian (2015). Antifluoride networks were more connected than social networks indicating high degree of their influence. There was clear evidence of social diffusion. There was 50% chance of users encountering an antifluoride related post. These posts were negative and nonempirical in nature. The results showed that network sociology could be highly influential in matching the information content with scientific validity of a specific health topic discussed in social media. Public health authorities can use these social strategies to enhance their communication management.

Governments categorised 2009 H1N1 as a pandemic through print, broadcast, and digital media. People were advised to follow hygienic practices and comply with social isolation. News media treated it as a lead story. For the public, the pandemic was not serious, even before it was widely accepted as mild. In this case, people accepted the public health advice, but were not convinced of its pandemic nature. They showed critical awareness about the narratives used for describing it as an outbreak with associated emotions like fear. These observations disprove the notion that the publics are complacent. It also means that the governments need to consider an emerging ground of multiplied and critical media consumption, so that they can effectively communicate to the public about the risks during global health emergencies.

### **Covid-19**

In the context of Coronavirus outbreak, there had been millions of tweets mainly on virus contagion, prevention and economy. Serious concerns expressed in tweets were replied by government and health officials and response of Twitter users to government communications which could be categorised into two types: alarming and reassuring. Reassuring nature of messages of government emergency communications were also. Alarming tweets were higher during the initial stages of the outbreak when official messages tried to downplay the impact of the pandemic. This was followed by increasing number of reassuring messages from the government. Often, the official response and news media response were contradictory. Then the government needs to evaluate the messages in social media for their relative impacts and act accordingly. Reassuring messages from the media is also important (Rao, Vemprala, Akello, & Valecha, 2020).

From an analysis of the policy capacities leading to Singapore's low fatality rates and effective contact tracing and the capacity deficiencies leading to its high rates of infection, Woo (2020) observed that fiscal, operational and political capacities built up after the earlier SARS crisis contributed to low fatality and efficient contact tracing rates, but deficiencies in analytical capacities might explain the high infection rate of COVID-19, the current pandemic. High level of COVID-19 infections and the development of several large and interlinked infection clusters contributed to its deficiencies in other capacities. The TraceTogether application developed for contact tracing was not downloaded by majority of Singapore population due to concern about data privacy and lack of trust in the ability of the government to protect the personal data or even doubts about it being used for other purposes. Tracking tools for people entering and leaving public places were also developed, but not used widely. Rapid cluster development was noticed

in the dormitories of foreign workers late as communications on infection and spread among these people did not reach the decision makers rapidly. The cramped and poor living conditions in these areas were known, but ignored to trace Covid-19 spread. Lack of political capacity to communicate well with the NGOs about the plight of foreign workers was a serious weakness. Singapore's unique demographic and socio-political context might limit the generalisability of these observations.

The term 'Prosumption' is applied to new message creation and delivery paradigm, allowing anyone to seamlessly shift from consumer to contributor or to creator. It leads to creation of 'use-value' and re-orientating 'exchange value'. Prosumption is also inherently relational, even at micro level of interaction between consumer and producer. COVID-19 pandemic, is also relational in its transmission as most global leisure activities have been paralysed with households and sports organisations complying with state-enforced residential lockdown. Using social network analysis, Bond, Widdop, Cockayne, and Parnell (2020) examined the network structure of a prosumed leisure activity during societal lockdown and its implications for the leisure industries. Many leisure groups are now using virtual platforms to host events in YouTube, Facebook, Zoom or other video hosing platforms to circumvent these restrictions.

Craighead, Ketchen Jr, and Darby (2020) used resource dependence theory, institutional theory, resource orchestration theory, structural inertia, game theory, real options theory, event systems theory, awareness–motivation–capability framework, prospect theory, and tournament theory to propose a framework for supply chain management systems during pandemics. Covid-19 has altered global supply chains significantly due to disruptions different from typical ones leading to large spill over effects across countries. The need for supply chain actors to develop transiliency in situations of pandemics like Covid-19 was highlighted by the authors as the justification for their proposal.

Knowledge management transforms into an intentional and orderly integration of personalities who deal with a particular technology, initiative processes in utilizing this technology and the governing structures of such initiatives to increase its utility. In the context of Covid-19, this integrative coordination consists of the creation of comprehensive knowledge about the pandemic, sharing such knowledge among both affected and potential parties and the precise application of this knowledge for achievement of positive outcome. It also involves absorbing and recording the experience of confrontation with the health crisis, together with the best practices applied to successfully manage the COVID-19 crisis. This can help in managing any possible re-occurrence of the same or any other similar pandemic. The earlier experience with SARS and Ebola may also become part of using the knowledge so obtained (Abijah, 2020).

In a Bangladesh study, although citizen engagement could be a positive idea, in many cases, such engagement becomes obstacles of disaster management. This was due to the citizens not possessing adequate knowledge required for active engagement and not having enough patience in disastrous and pandemic situations. This type of situation can hinder disaster and crisis management operations. The lessons learned from the COVID-19 pandemic may be useful in driving citizen engagement to more positive directions (Huda, Uddin, & Khaled, 2020).

While many sociological papers tried to place sociology above medical science in the primarily medical issue of managing pandemics, the paper by Van Bavel, et al. (2020) was more positive on the supportive role of sociology in making medical recommendations successful. Covid-19 places substantial behavioural changes and psychological burdens on people. Sociological and

behavioural sciences can help to align the behaviour of people with the health departments' recommendations. Research so far has not been effective in tackling uncertain and unsettled issues in this regard.

Setting priorities between treatment of Covid-19 patients and emergent or elective surgical patients of other diseases is always a tricky issue, as accelerated spread of Covid-19 is noticeable in many countries. This has prompted many articles discussing the ethical and constitutional rights of citizens when preference for Covid-19 can deny rights of other patients. In one such paper, the prioritisation issues of neurosurgical treatment using a suitable algorithm was discussed by Schiariti, Restelli, Broggi, Acerbi, and Ferroli (2020). It may be possible to develop predictors of Corona-19 for decisions on strategic spacing of treating other patients.

The need for cautious approach to long term use of tech-driven work practices adopted in companies to deal with the severe time pressure induced by Covid-19 was highlighted in the paper of Carroll and Conboy (2020). Change in nature of work and promotion of remote working (work from home) to comply with social distancing requirements have been introduced by many organisation as a reactive step, expecting that these will be short term approaches. However, Covid-19 can last long. The effects may last still longer. Therefore, there is need to reflect more on normalisation of work practices with distinct role for technology. In arguing their case, the authors have drawn upon normalisation process theory (NPT) along with its components: cohesion, cognitive participation, collective action and reflexive monitoring. This means, organisations may need to infuse technologies into the existing systems to generate new normal in the work culture to replace the big bang approach to deal with the long term effect of the pandemic.

To solve the problems of social and economic burdens during pandemic times like the current Corona-19, countries need to refine their social and technological factors. Wang, Yang, Yüksel, Dinçer, and Gülseven Ubay (2020) identified four criteria each for social and technological factors. The authors do not seem to have validated the model with a specific country or countries as examples.

A comprehensive analytical approach using multiple methods by Lindhout and Reniers (2020) revealed that prevention of pandemics like Covid-19 is possible with the use of a safety management based biohazard risk control. It assumes high importance as it can stop almost all pandemic scenarios even before an outbreak.

In the current novel coronavirus outbreak (COVID-19), as of mid-March 2020, there are already reports from Australia, Brazil, China and the United States suggesting an increase in violence against women and children (VAM/C). Peterman, et al. (2020) identified nine main possible mechanisms through which increases (decreases) in the relationship between pandemics and VAM/C may occur. These were ranked in the order of importance (based on percentage of population affected). These mechanisms consist of numerous factors which help to explain increase in VAM/C. In the case of pandemics like Covid-19, misinformation, scare tactics, blaming, denial of treatment, prevention and protection facilities and denial of rights are practised by perpetrators which increase VAM/C. Many policy responses have been suggested to counter these problems.

In the context of Covid-19 in a complex, fast-changing and fragile society, science education can play an important role to prepare future generations to deal with such problems. The pandemic induced changes have changed the concept, perception and organisation of time. An exploratory

qualitative study was done by Levrini, et al. (2020) on the experience of time during lockdown and which scientific knowledge they used to cope with the current uncertainty and change in time structures. New thematic and epistemological priorities for science curricula, new emphasis on learning and teaching subjects to foster appropriation and arguments for revising the institutional role of schools were suggested based on the results.

Kenya had been adopting online models and continuation of research in Covid-19 related activities at higher education levels, but schools were closed indefinitely. On 8<sup>th</sup> July 2020, the government announced that all basic education students except some standards will repeat their current levels in January 2021. Mbogo (2020) studied the official causes for this decision and suggested facilitation of home-based education during the Covid-19 pandemic with a goal for progression and promotion of students to the next class level, when the 2020 syllabus is eventually covered. This can protect students from loss of years.

Higher resilience is exhibited by well-informed and self-motivated population than ignorant ones. It is possible to sort out the human truths of love, caring, and solidarity from our subconscious using the chance offered by this Covid-19 period. Now it is necessary to rethink on the health of the complex human-nature interactions that drove the crisis to an unsustainable human civilisation. In the paper by Zabaniotou (2020), the aim was to evaluate the transdisciplinary resilience dialogue on the maintenance of health and life-supporting processes of the biosphere with its focus on the COVID-19 crisis. In doing so, a humanistic approach was used. It was based on controlling strategies involving containment and social isolation as well as the ecological balance considering the human, societal, and ecological health as a wider system of emergent property. Some positive insights were indicated by a transdisciplinary integrator and solidarity facilitator of coping, mitigation, and decision-making in the time of uncertainty and anxiety created by the COVID-19 pandemic.

## **Discussion**

In all, 15 papers each on earlier pandemics and on Covid-19 were available from the literature search. This trend indicates the relevance of sociology in management of any pandemic at any time. The papers used qualitative methods more. There was, perhaps, an overenthusiasm in proving the primacy of sociology over medical aspects instead of projecting a mutually complementary role. Only a few papers dealt both with equanimity. The evidence presented for many conclusions were more rhetorical than based on sound data as conclusions exceeded what the data really revealed. There were some discursive arguments in some papers, which demonstrated some uncertainty about the line of argument they would like to follow. However, the sociological points of importance were not lost, as they are too important to overlook. In some papers, practical aspects were lost to too theoretical treatment of the subject.

Uncertainties of the risk, duration of the pandemic and availability of cure and vaccines force governments to develop quick short term strategies as the situation develops. Sociological aspects related to government and public health strategies and communications and that of people at the receiving end have been dealt by these papers. There need for government to convincingly communicate about the pandemic and strategies of dealing with them. Equally, on the other side, the public should rely only on the authentic and scientifically precise information as guidelines to protect themselves.

Many areas of human activities are affected by pandemics in a variety of ways. The extent, to which they are affected, is determined by the severity of the pandemic and its method and rate of spread. There is no alternative to avoiding physical contacts and wearing protective equipment. Work from home, online education, online services and home delivery, telehealth are some non-medical strategies which need to be used. These points have been brought out well in few papers.

## Conclusion

Overall, there is no doubt about the pivotal role of sociology in shaping the strategies against pandemics including Covid-19. It should be a healthy combination of sociology and medical sciences to enable governments and public health departments to deliver most effective care, protection and prevention strategies. This review has succeeded to a limited extent in pointing out to this necessity.

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