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Science and Health Journalism in Context of Covid-19 Pandemic

Abstract : It is critical for media to disseminate scientific, evidence-based information about new diseases and viruses as well as diagnostics, medicines and vaccines. Such information helps shape people's perception about diseases, public health policies and prepares them to face new challenges like Covid-19. While the coverage of science in Indian media has been historically low, the pandemic has led to an upsurge of health and scientific news. In addition, 'infodemic' has emerged as new threat to scientific information. New partnerships between scientific community and media are needed to address the situation.

News media – newspapers, television channels, radio and digital news outlets – are an important source of health-related news and information for people. Media covers latest research findings, health policies and programmes, consumer health issues as well as outbreaks of new viruses and diseases. From the public health point of view, it is critical that people are fed with scientific, evidence-based information about new diseases and viruses as well as diagnostics, medicines and vaccines. This could help shape people's perception about these diseases and help in prevention and treatment as well, thus contributing to their wellbeing. In the case of new viruses against which no vaccines or therapies are available, news media can help shape risk perception among people and policy makers.

Science and health coverage in India media has been found to be generally very low.^{1,2,3} However, it witnesses a spike in the event of an epidemic, outbreak or health crisis. The ongoing pandemic of Covid-19 has led to a deluge of health information and news in public domain through mass media. In addition, people are exposed to multiple messages via social media platforms where people can freely share information without any editorial controls. This has led to information overabundance which the

World Health Organisation (WHO) calls the infodemic.⁴ This overflow of information consists of verified and accurate information. There is a lot of misinformation and disinformation about the virus, symptoms of the disease, treatment options and policies like lockdown, social distancing and face covering. Misinformation disguised as news (fake news) has been identified as a major problem in India.⁵ The infodemic has reached such a proportion that WHO is viewing it as a new disease which needs to be systematically studied and countered, along with the pandemic. Studies have also highlighted the need to examine how media covers health and science, and steps needed to bring about necessary changes.⁶

Evidence from Past Pandemics

Since the turn of the century, when digital platforms brought about a change in the media landscape, media scholars have closely examined how pandemics are portrayed in media. The outbreak of H1N1 virus, commonly known as swine flu, presented one such opportunity for media in 2000s. A study of the UK media's coverage of swine flu found a positive trend. Researchers noted that "despite a succession of health scares in recent years in which the media has been accused of exaggerating the risks and contributing to public misunderstanding of the issues, this analysis suggests that the UK newspaper reporting of swine flu in the 2009-10 outbreak was largely measured."⁷ The news media's role as disseminators of factual health information was positive, particularly in relation to reporting on scientific uncertainty. In contrast, a study of H1N1 coverage in *Times of India* showed that the newspaper framed H1N1 as a deadly disease and its coverage presented death in such a manner as to produce fear and panic. An analysis of 62 stories about deaths due to H1N1 yielded four dominant frames - Fear-panic, Attribution of responsibility, Action and Human interest.⁸

A comprehensive analysis of the press coverage in Germany during the H1N1 pandemic in 2009-10 indicated that media awareness was strongly related to the actual

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situation of the pandemic.⁹ The changes in the number of infected people as the pandemic progressed were associated with nearly identical changes in the number of newspaper articles. The use of message characteristics such as “fear appeals” and “self-efficacy” was seen in 10.7% and 32.9% of the newspaper articles respectively. Only a few articles contained information on the agent of the influenza or support measures. Information on vaccination was included in 32.9% of all articles. For vaccine-preventable infectious diseases that spread quickly, the benefits as well as risks of a vaccination have to be communicated transparently, the study suggested.

Another study about media attention, pandemic control measures, risk perception and public health behaviour among five European countries (Czech Republic, Denmark, Germany, Spain and the UK) suggested that asynchronicity between media curves and epidemiological curves may potentially explain the public health paradox during a pandemic.¹⁰ Media attention for H1N1 pandemic in Europe declined long before the epidemic reached its peak, and public risk perceptions and behaviours may have followed media logic, rather than epidemiological logic.

Ebola outbreak in Uganda during 2000-2001 presented an opportunity to study how newspapers responded to the health crisis. It was found that the response was very dramatic but perhaps disproportionate to the actual danger presented.¹¹ A total of 639 newspaper articles were included in the analysis from across the globe. The topics covered in the news included confusion, anger, and serious stigma in affected communities; medical staff working themselves to exhaustion, with some quitting their posts; patients fleeing from hospitals; calls on spiritual forces for protection against infection; a well-coordinated national control strategy; and the imposition of some international travel restrictions. Given the extent of the fear and stigma that prevailed during the outbreak, the value of being open in providing information emerged as a key factor.

Positioning of new research findings and vaccine development has to be careful, in times of a pandemic. Researchers have focused on the quality of health science articles in newspapers. An analysis of such news articles in Italian press showed that only 12% articles on new treatments, procedures, tests or products mentioned costs or risks to patients.¹² Moreover, benefits were always maximized and in 33% cases they were presented in relative rather than absolute terms. The majority of stories did not report any financial conflict of interest though such conflicts did actually exist in some cases. Overall, undisclosed costs and risks, emphasized benefits, unrevealed financial conflicts of interest and exaggerated

claims were seen in the stories in Italian print media. All this becomes relevant in the present context of Covid-19 as media reports on vaccine development, its costs, timeline and accessibility.

Covid-19 Pandemic in Indian Media

Since the declaration of Covid-19 first as a health emergency and then as a pandemic by WHO in March 2020, the Indian media has been covering it extensively. The focus of media is on conveying scientific information to people about the novel virus, its characteristics, the way it spreads, preventive measures and so on. Since it is a novel virus, not much prior information was available even with the scientific community and health agencies. The hunger for information rose as the virus spread quickly to many countries including India, and as governments took drastic measures such as shutting down public transport and eventually imposing lockdowns.

Normally, scientists report their work on new diseases and viruses in scientific journals, and science journalists then translate the scientific knowledge into easily understandable news stories. This kind of flow of information, however, was bypassed in many instances as scientific research on Covid-19 exploded and some of it was published in public domain even without the mandatory peer-review. Scientists also announced their findings in social media. Media picked up these ‘findings’ from pre-print portals and wrote news stories. For instance, one Indian institute, in a pre-print paper, hinted that the novel virus may have been engineered in laboratory. It was withdrawn, but not before being picked up by media. Even peer-reviewed journals were caught in the web of speed, and had to retract research papers when flaws were pointed out. In addition, fake news factories took advantage of the situation by flooding social media with messages on conspiracy theories and so-called treatment and cure for Covid-19.

The experience on how infodemic has affected Indian audiences so far is mixed from the limited evidence that has emerged. An online and offline survey done by a group of Indian researchers during the lockdown period has found that that majority of common citizens have rejected myths, superstitions, and conspiracy theories that have been floating around in social media and chatting platforms. On the other hand, people’s perceptions have been shaped largely by “scientific information communicated by the scientific community, science communicators, doctors and experts through various media channels.”¹³ As far as efficacy and trust are concerned, it was found that television and ‘internet’ (it includes digital

news media) were most effective in communicating science related to the Covid-19 virus. The researchers feel that “since the survey was conducted during the lockdown period it can be concluded that the crisis of this nature on the one hand leads to enhanced efficiency of science communicators and media channels, and on the other hand, it also increases the receptivity of deeper, valid and usable science, among the common citizens.”¹⁴

However, infodemic penetration seems to be very high even among educated people, as a study done among healthcare professionals in India has found.¹⁵ While a bulk of study participants admitted to having received misinformation about Covid-19, mostly from family and friends, a substantial number of them (50%) felt it was difficult to differentiate between correct and incorrect information about Covid-19. Overall, the study found a high prevalence of misinformation, especially from social media, and has suggested that healthcare professionals need to “adapt to the changing times of infodemics accompanying pandemics.”

Another online survey done among 300 social media users during the lockdown showed that a bulk of users found it difficult to distinguish between fake news and real news, indicating to poor levels of ‘digital media literacy’ among people. Even those who were aware about information being fake did not bother to fact check before forwarding or sharing with others.¹⁶ Medical researchers have also noted that misinformation is causing adverse health impacts especially among people with pre-existing mental conditions like anxiety and obsessive-compulsive disorder. In other cases, rumours and spread of misinformation has apparently led to attacks on healthcare providers interfering with the process of surveillance and treatment.¹⁷ A survey among healthcare workers and general public identified five domains or causes for the COVID-19 infodemic - social media-associated causes, behavioural aspects, novelty of the virus and related challenges, causes due to lacunae in policies and health systems, and difficulties in the verification of information.¹⁸ An analysis of WhatsApp messages circulating in India showed that most of them were in the category of panic generating, followed by jokes making fun of people, countries and even patients. A number of forwards pretended to spread ‘awareness’ but did not contain verified information. Authentic information about government action or helpline numbers were least forwarded.¹⁹

With misinformation spreading through social media platforms, the onus of providing verified and accurate information falls on the shoulders of mainstream media -

newspapers, television and radio. In addition to providing news, they also have the responsibility of busting fake news through fact checking. A major study on media reporting of Covid-19 epidemiology in Indian language papers (Kannada) has noted that underlying message across all the reports was that of a growing health crisis and ‘heroic’ steps being taken to address it.²⁰ The focus was on numbers – number of people testing positive for COVID-19, number of deaths, number quarantined, etc. As the number of cases went up, the unit of reporting shifted from districts and talukas to localities, wards, and villages. Reports referred to preventive measures like thermal-screening, quarantine, isolation, lockdown, social distancing norms, food supplies, and also talked about violations of the rules. The media strategy was to hold public health administration accountable for implementation of declared policies. The case study style of reporting highlighted instances of people helping or being helped at times of crisis.

The media reporting included supportive information and explanation of concepts: helpline numbers, use of mask, improving immunity, handwashing, etc. The practice or otherwise of social distancing and repeated handwashing gained greater traction and prophylactic use of hydroxy chloroquine, protective effect of BCG, possibility of vaccine, ‘cheaper’ ventilators, plasma therapy, were also discussed. Opinion columns covered scientific issues like herd immunity, clinical trials, previous global pandemics and epidemics, use of drugs like hydroxychloroquine. An important question explored was whether the reporting was ‘alarmist’ and “sensational’ at any or every stage. The study, however, failed to arrive at a definite answer though it did find gaps in reporting in terms of subjects covered in newspapers (surveillance, house-to-house surveys, implications of randomness, sensitivity and specificity of screening tests, attack rate, reproduction number, survival analysis and precise case definitions).

Conclusions

The Covid-19 pandemic has brought into focus the key role health and science journalism plays in communication of scientific knowledge and public health information to the public. The rise of infodemic - misinformation, disinformation, fake news and so on – seen during the current pandemic has put additional burden on health journalism and added a new responsibility of busting fake news. While there are inadequacies and gaps in coverage of the pandemic, available evidence shows that the media coverage of the pandemic in India has been extensive and largely responsible. There is no evidence

so far of it being alarmist or sensational, though more studies are needed given wide variations in media that exists in a large country like India. In addition to mainstream media taking on the role of busting fake news, public health experts feel that “mitigating the fear of infectious disease outbreak and countering the infodemics related to it along with protecting public health is complex but an important part of public health crisis management.”²¹ A proper policy framework is needed to combat fake news during the present and future emergencies, with focus on risk communication.²²

The pandemic has also pointed to the need for greater collaboration between media and the scientific as well as public health communities to enhance the quality of coverage. This kind of partnership or collaboration is needed in normal times also, but is critical during health emergencies like the current one. A new collaborative called Indian Scientists’ Response to COVID-19 (ISRC) formed in March 2020 is an excellent example of a common platform for media, scientific community and other stakeholders. Over 500 scientists from academic and research institutes across the country have launched this initiative which includes computer scientists, biologists, doctors, public health researchers, science communicators, social scientists and journalists. The group has been engaged in analysing “all available data and support national, state and local governments for evidence-based action,” besides verifying and communicating information. More such platforms are needed to help media deliver authentic and verified scientific information. In addition, media organisations will have to undertake capacity building programmes for science and health journalists on a regular basis. Quality science and health journalism is good for the health of the people.

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