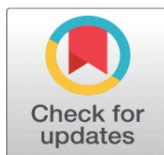
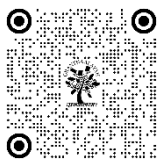


# UNDERSTANDING THE DIGITAL NARRATIVE OF HEALTH COMMUNICATION

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Received 01 April 2023

Accepted 30 June 2023

Published 05 July 2023

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## DOI

[10.29121/shodhkosh.v4.i1SE.2023.434](https://doi.org/10.29121/shodhkosh.v4.i1SE.2023.434)

**Funding:** I am receiving fellowship from ICSSR for health Communication.

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## ABSTRACT

The digital media has come a long way in promoting participatory communication. From not limiting itself to social interactions alone, the digital medium has become a medium of raising social awareness, promoting entrepreneurship, and creating a steady web on public domain. This has resulted into a forum of self-reliance on knowledge accessibility. This forum has become a steady source of information even in the face of extreme crises. Understanding the need for reliable communication on health in the last pandemic in terms of health, the digital media took an innovative stance through app-based interaction and led to steady discussion on the prevention, improvement, and remedial approaches of the health crises. Health communication makes was for effective public health objectives that could be both promotion as well as assistance towards individual and collective change thereby minimizing health disparities. Digital media here plays a crucial role.

The research here will be undertaken to understand the applicability of apps through interviews with health experts and case studies of health apps that are in function. This will be enhanced and elaborated with the aid of different communication models applicable in case of digital media and health communication that can address different health crises.

**Keywords:** Health Communication, Digital Media, Participatory Communication, Business Entrepreneurship, Networking, Health Crises

“This paper is largely an outcome of the Post-Doctoral Fellowship sponsored by the Indian Council of Social Science Research (ICSSR). However, the responsibility for the facts stated, opinions expressed, and the conclusions drawn is entirely of the author.”

## 1. INTRODUCTION

### 1.1. LEADING THE DIGITAL WAY

The digital media has come a long way in promoting participatory communication. From not limiting itself to social interactions alone, the digital medium has become a medium of raising social awareness, promoting entrepreneurship, and creating a steady web on the public domain. This has resulted in a forum of self-reliance on knowledge accessibility. In the last one decade the intervention of digital media as an information source has been tremendous. With too much disorganized information, it is rather difficult to pick genuine health related information. In this case a more organized and structurally designed app or digital intervention for a more targeted health concern seems to address most communication hurdles.

Health crises is one of the most referred risk elements that is a primary concern of most nations both developed and underdeveloped. A planned risk communication mostly in the area of health related to empirical findings, ongoing diagnosis, or unexpected emergencies would be extremely crucial. Planned risk communications mostly in the area of health should be typically embedded in institutional cultures. This requires situational understanding with defined agendas that touches upon risk assessment, intervening or managing such risks, evaluating the findings as well as in the turn of events when there is no risk component getting the correct information through what is said and when becomes extremely crucial.

## **2. RISK COMMUNICATION AND RELIABLE INFORMATION**

Risk communication leads to findings based on social, cognitive, the total ecology of economics of both independent and community applications.

The year 2020 has been an eye opener of sorts especially while dealing with health crises. In the current understanding the need for reliable communication on health in the last pandemic saw the digital media take an innovative stance through app-based interaction and this in turn led to steady discussion on the prevention, improvement, and remedial approaches of the health crises.

Health communication now takes up a crucial role that can fulfill the gaps of risk communication to a large extent. This could be both promotion as well as assistance towards individual and collective change thereby minimizing health disparities. Digital media here plays a crucial role.

It is often seen that people's response to a series of health-related events can often trigger a number of emotional, cognitive, as well as psychological responses, the new media intervention can become a nonaligned agent in trying to mitigate these emotional imbalances and connect it with fact based and resource-based solutions. Health risk is inevitable especially in the face of climate change; hence it has been put as a core area for risk communication. Risk perceptions, identified as the cumulative compilation of risks, that sees a steady rise when the hazard is created by the intervention of man, involuntary, or localized in one geographic area. There could be disagreement among experts on the source, diagnosis, or the nature of cure but often this leads to inevitable variations in long-term solutions.

Basics of communication, even in terms of health crises, characteristics of the nature of risk, the content of messages, and the manner in which the message has been communicated, along with how the people who are at the receiving end of information are the key factors of understanding how people take preventive measures in general [Glik \(2007\)](#).

## **3. AROGYASETU**

The intrusion of Artificial intelligence in terms of health communication is indispensable today. One can simply understand this from the application of the ArogyaSetu app during the handling of the Covid Crises. Artificial intelligence is however a very large ambit.

Father of Artificial Intelligence John McCarthy terms Artificial Intelligence as the science and engineering of creating intelligent machines that are primarily very apt computer programs.

Essentially a computer- controlled robot, the Artificial Intelligence or a software is conceived and developed to think intelligently, applying reasoning, quite similar to that of the human mind. The mannerism of thinking, decision making and

problem solving has been framed in line of the human mind. AI and health communication put together, makes way for mHealth apps. mHealth apps are decisive in regulating emergencies especially during health crises. They can support health systems through ailment inspection, threat evaluation, health crises recognition, contact tracing, dispelling misinformation, and circumstances monitoring.

The four broad categories of mHealth apps as developed from research are:

- 1) information apps, giving general health information.
- 2) diagnostic apps, for clearer patient information and diagnosis.
- 3) control apps, for scrutinizing and evaluation of medical devices
- 4) adapter apps, for transforming regular mobile devices into medical devices [Larson \(2018\)](#).

If the ArogyaSetu is put under any category, it would be the information app. It can be credited for informing the users regarding the probable risks and providing relevant information that are both preventive as well as therapeutic. A study indicates on April 21, 2020, the ArogyaSetu app had more than 50 million downloads, securing a rating of 4.6/5, from 273,646 users [Sharma \(2020\)](#).

It was also found that COVID-19 pandemic posed a number of challenges to the Artificial Intelligence (AI) Community. Common among these challenges have been relating to tracking and predictions. Other questions also hovered around diagnosis, treatment, and cure and most relevant among them have been impacting social control.

Many studies asserted on the use of the app as being useful mostly, working on monitoring, assessment of individuals, and updates. Reviews have quoted the usefulness and suggestions that are required to improve the app's features.

#### **4. APPLICABILITY OF THE AROGYASETU**

On whether the ArogyaSetu App has really helped to stop false information, with regards to COVID-19, perhaps trying to access the source of all covid related information the ArogyaSetu app hasn't quite hit the mark.

Some of the findings of the study can be summarized into the following factors like timely initiative which increased the credibility over the app, being easy to use that created a sense of confidence among the users, open-source data, and the element of self-reported data for identifying positive cases and understanding the vulnerability.

Unfavourable feedback was also observed as not being useful during the fall of the wave as well as some element of reliability since it was mostly user centric. Users having given a negative review develop the tendency to uninstall the application dismissing the benefits of the app to a large extent [Hense et al. \(2020\)](#).

#### **5. USABILITY OF THE APP FOR MISINFORMATION COMBATING AND POST COVID**

A focus group discussion was conducted among thirty users having downloaded the Corona app. While the questions veered around its usability, applicability as well as the reliability factors, the researcher here has factored down the prominent findings into the broad elements of risk communications. The entire assessment on the functionality of the App can be put into the following factor which was the basic characteristics of mHealth apps on risk management.

- 1) information apps, provided information on the understanding of the virus and its spread.
- 2) diagnostic apps, in terms of the Covid situation worked with the identification of positive patients which were in and around the people.
- 3) control apps, in case of Covid unlike medical devices the app has been able to create a room for booking of vaccines and displayed the availability and access of them.
- 4) adapter apps, for transforming regular mobile devices into medical device [Larson \(2018\)](#). It has been seen post the Covid wave, since post corona, that the app could not update itself or adapt itself to Covid related crises.

Some of the broad categories have been identified as Accessibility, Reliability, Individuality, Utility, Reception and Possibilities.

In terms of accessibility the people spoke on the accessibility of ArogyaSetu app during the peak of the pandemic and post fixing the vaccine dates, the information available was accurate but sometimes it put privacy at stake.

While taking Reliability of the app into consideration, it was found out that mostly the updates on diagnosis were about probability with the actual diagnosis being detected through medical intrusion so there was confusion of the findings.

There was no matter of customisation, so individuality was not an issue. It was utilitarian considering it helped book vaccines and also worked as a reminder for taking precautionary dose. The reception has been easier while offcourse media literacy was a prerequisite, and the possibilities could have been numerous as post covid it could have been used as a general health app.

## 6. HEALTH CRISES AND MATERNAL MATERNITY RATE

Despite recording a critical fall in the Maternal Mortality Ratio (MMR) Assam showcases poor performance indicators in India. As per the Registrar General of India's (RGI) for the period 2018 to 2020 there was published a 'Special Bulletin on Maternal Mortality' which stated that in Assam a total of 195 deaths per lakh live births were reported.

Maternal mortality is inadequately high. Figures indicate 295 000 women died in 2017 alone during and following pregnancy and childbirth in the world. Southern Asia accounted for nearly one-fifth (58, 000) of this number where women in less developed countries significantly more pregnancies than women in developed countries, thereby leading to the increase in deaths. Maternal deaths can be preventable through the intrusion of health-care solutions leading to innumerable complications. The chief requirement for women is to be able to access proper healthcare, in phases both before and after childbirth since both of them are inseparable (WHO, 2019).

Figures from the National Family Health Survey-5 (2019-21) have indicated that 25% of women aged 18-29 marry before reaching the legitimate marriageable age. Following the minimum age for marrying in Assam stands at 32% whereas the rate of anaemia among women stands at 60% [Kalita \(2022\)](#).

The research here will be undertaken to understand the applicability of apps through interviews with health experts and case studies of health apps that are in function. This will be enhanced and elaborated with the aid of different communication models applicable in case of digital media and health communication that can address different health crises.

The prominent questions that were put forward were again deduced into Accessibility, Reliability, Individuality, Utility, Reception, Possibilities and have been added in course of the analysis.

## **7. FUTURE OF MMR IN INDIA**

The problem of high MMR in India has been considered a priority by the Government. While community participation is essential in RCH programme birth control strategies face hurdles by the family members. Pregnant mothers need to be informed about taking iron and folic acid supplementation during the time of pregnancy. Regular check-ups and precautionary vaccines need to be undertaken. While designing health communication, the overall development of the community in education, technology and economy can lead to the ultimate solution of the problem [Datta & Datta \(2015\)](#).

## **8. DIGITALISATION AND KILKARI APP**

Kilkari app claims to be the largest mobile-based maternal messaging program in the world. Its reach is over 24.6 million women along with their infants across 17 states and union territories of India. 1.5 million active users are currently using the app which provides information access to pregnant women, new mothers, and their families. The information is rich with maternal health updates that include beneficial information for both mother and child. The information is designed for every trimester and works on accuracy, relevance and phase wise info on delivery, maternal health, neonatal condition, and child health. Initially this was put into operation by BBC media action in association with the Ministry of Health and Family Welfare (MoHFW) that is required to deliver timely audio information directly to families' mobile devices. The per week pre-recorded call tries to entail health risks that are unusually elevated during different phases [Kilkari. \(n.d.\)](#).

## **9. RISK COMMUNICATION FACTORS**

The receiving audiences' perception determines their understanding of risk communication. This requires identifying mediums that the community can relate to for both researchers and practitioners.

Second, thoughtful policy relevance should become a central part of risk communication research. This requires a research program that is purely designed to thoughtful and applicable local, national, and international risk communication contexts. Evidence-informed policy engagement works towards the road to recovering the field's policy relevance and communicating risk communication findings more proficiently. [Balog-Way et al. \(2020\)](#)

## **10. DIGITAL DIVIDE**

Digital divide in clear terms means the gap that exists between those with quality, efficient access to digital and information technology, and those who cannot avail it. This takes into account both infrastructural admittance to technology hardware and, more so, skills and resources which makes way for its use [Bansode, & Patil \(2011\)](#).

According to the research and even identifying some of the major factors that are affecting the digital divide, gender remains a prominent area of discrimination. In most countries and organizations, women avail minimal access to the Internet

than males. It was found that fewer male (38%) had limited access to the Internet than the female counterparts (41%). This discrepancy is moderately endorsed to the perception that technology is primarily gendered for men, with many female consequently staying away from it. [Gupta et al. \(2019\)](#)

This also connects with the Literacy Rate. As per 2001 Population Census of India, the male literacy rate stands at 75.96% and female literacy rate is 54.28%.

In such a scenario, accessing health information would be difficult. Even though it seems that the literacy rate is fast moving upwards but in relation to urban and rural areas there is marked discrepancies in the literacy rate which in turn creates a hurdle for digital divide.

## **11. PUTTING THINGS IN ORDER FOR MMR**

Taking into considerations all the findings, we come into the conclusion that there are primarily few factors which can be safely be summed up into. They are:

### **1) Applicability**

The phone in programme can work on language gap as well as technological friendliness among the women. Despite the ambitious planning of using an app for communicating on women's health, technological orientation is a must and a number of sessions can be designed for women to break the prejudices associated with technological use.

### **2) Accessibility**

It is usually the male members of the families who are owners of the handset hence communicating through phone could be a rather impractical concept. Perhaps a basic handset given to the women along with nutritional benefits would be more beneficial.

### **3) Reliability and Individuality**

Most women connect with ASHA at a personal level, and they have a personal connect with the women. Training and orientation of the ASHA would be very effective since it is difficult to customise calls at such a mass level taking into consideration the diverse economic background as well as the varied social set up.

## **12. SUMMARISING**

In terms of the ArogyaSetu app it can be seen that when it comes to a pandemic the problems are more or less generalised and customisation is not a requirement. Of course the app with such a huge database could be seen as carrying a large potential for any future application of app for settlement of any health crises. This can pave way for better understanding and bring in adaptive measures for mhealth app for accessing health information seeking people in the future. Kilkari app is a torch bearer and could find ways of bridging the gap and holds a lot of promise and potential for future health communication but has to overcome the huge problem of digital divide and diversity in delivering message. In order to make the app more applicable more socio-economic research of the women, technological orientation as well as creating an infrastructure that would felicitate the future of such apps in health crises.

## **CONFLICT OF INTERESTS**

None.

## ACKNOWLEDGMENTS

None.

## REFERENCES

- Balog-Way, D., McComas, K., & Besley, J. (2020). The Evolving Field of Risk Communication. *Risk Analysis*, 40(S1), 2240-2262. <https://doi.org/10.1111/risa.13615>.
- Bansode, S. Y., & Patil, S.K. (2011). Bridging Digital Divide in India : Some Initiatives. *Asia Pacific Journal of Library and Information Science*. 1(1).
- Datta, D., & Datta, P. (2015). Maternal Mortality in India : Problems and Strategies. *International Journal of Public Health and Epidemiology*, 4(7), 187-188.
- Glik, D. C. (2007). Risk Communication for Public Health Emergencies. *Annual Review of Public Health*, 28(1), 33-54. <https://doi.org/10.1146/annurev.publhealth.28.021406.144123>.
- Gupta, M., Bashar, M., Mahajan, S., Murugan, S., Kankaria, A., & Bhag, C. (2019). Epidemiological Investigation of an Acute Viral Hepatitis Outbreak in an Urbanized Rural Area in à North Indian Union Territory. *International Journal of Infectious Diseases*, 79, 130. <https://doi.org/10.1016/j.ijid.2018.11.317>.
- Hense, S., Kodali, P., Kopparty, S., Kalapala, G., & Haloi, B. (2020). How Indians Responded to the ArogyaSetu app ? *Indian Journal of Public Health*, 64(6), 228. [https://doi.org/10.4103/ijph.ijph\\_499\\_20](https://doi.org/10.4103/ijph.ijph_499_20).
- Kalita, K. (2022, December 1). Maternal Mortality Ratio in Assam Highest in Country. *The Times of India*, 3.
- Kilkari. (n.d.). ARMMAN – Helping Mothers and Children – ARMMAN is an India Based Nonprofit Organization Committed to Improving the Well-Being of Pregnant Women, Newborn, Infants and Children in the First Five Years of their Life.
- Larson, R. S. (2018). A Path to Better-Quality Mhealth Apps. *JMIR Mhealth Uhealth*, 6(7). <https://doi.org/10.2196/10414>.
- Sharma, S. (2020, April 15). AarogyaSetu has 50 Million Users in 13 Days, Beats 'Pokémon GO' Record. *Hindustan Times*.