

COVID Awareness On Vaccine Priority: Is Bilateral Communication The Answer? Pilot Study In A Rural Village Of Darjeeling District, West Bengal

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Abstract:

Background : COVID 19 Pandemic hit hard and affected all strata of population. Despite awareness sessions and webinars public awareness at its peak is yet to be. Topics such as vaccinations first was stigma then became a life saver. Media and public frenzy disrupted a smooth flow. Rabies vaccination if taken then covid vaccination had to be delayed and remained a second priority. The vaccinators, Health care workers had a tough time explaining general population on it. There was also a uproar in front of covid vaccine clinics for issues on prioritisation of rabies vaccinations. Finally IEC sessions were held among doctors and nursing staff and general public. Though behaviour change is a long term process and needs time the most important constraint in awareness generation session seems to be online mode of communication. Unfortunately no alternative exists. The world suddenly got locked and could be accessed only through virtual mode.

Hence digitally illiterate people comprising a majority in India or those lacking proper phone set and internet connectivity remain at dark and are practically cut off from the daily happenings of the civilized world. Denied of knowhow they plunged deep into depths of ignorance and false beliefs. Moreover the communication even if accessed was mostly unidirectional and one way. Yet human chain needs to be broken and each one is practicing preventive behaviour needs to be ensured. The study aimed to reach the digitally illiterate population who remain unreached and address their variegated queries relating to health primarily relating to the ongoing pandemic. There is dearth of published literature on the issue.

Objective: To ascertain opinion and formulate recommendations for sustainable operationally feasible methods such that community queries are addressed and to identify trend and type of queries received from user end. Queries on vaccine priority and dog bites were addressed especially.

Methods: Descriptive cross-sectional community-based mixed method ongoing study is being conducted in a village located in a rural block after taking permission from relevant higher authorities. IEC applied. Study subjects are local leaders of eminence and community residents enrolled for study purpose. Entire village after sensitised with intent, benefit of study were asked to send WhatsApp audio message communication for health assistance at a designated number. One family one message was reiterated. Voluntary consent was taken. Appropriate tools and techniques were used for data collection. Analysis was quantitative and also by transcript recording and content analysis. Communicating stakeholders, the study results are assured.

Results –Till date 12 eligible study subjects were studied in depth for qualitative purpose who opined unanimously that big screens be put up in open spaces ensuring social distancing. Here school curriculum may be taught, COVID appropriate health messages imparted, information displayed. The smooth conduction of the program can be a shared responsibility of local leaders and district officials. Capacity building of members of community regarding digital literacy was also emphasized. Another issue came up was lack of bilateral communication. Voice of community remained largely unheard. In a time when offline modes were not functional it led to confusion, chaos and distress among local people. Need for online interactive methods was reiterated by community and the present study was welcomed warmly since they had access to audio record their queries/WhatsApp their queries to the consultant 24*7. Service was accessed by 81.9%. Among them total calls related to COVID were 57.3% and 32.1% called for home quarantine advises. No untoward call came. However stratified analysis revealed queries on rabies vaccine and covid vaccine priority was asked by 37% population.

Conclusion: Study concludes that local people urged for continuation of service and thanked researchers for the novel idea. Data shows the success of the ongoing endeavour. It reiterates need for digital literacy to establish vaccine priority and cause with evidence base. However, a larger study is needed.

Key words : COVID 19 communication, bidirectional, digital illiteracy, rabies vaccination

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I. Background:

The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020. In the absence of definitive therapies or a vaccine, to effectively control the spread of the disease, many countries have adopted measures to limit the mobility, such as social distancing, closure of nonessential services, travel restrictions, containment and quarantine. In India, in the evening of 24th March, 2020, the Government of India ordered nationwide lockdown for 21 days (1st phase: 25th March 2020 to 14th April 2020) which was further extended. The COVID-19 pandemic has imposed various restrictions, such as lockdown and social distancing, affecting the quality of life and inter-individual social interactions; however, technology is playing a major role in maintaining social interactions. Digital health and technologies have provided many online e-services to address the communication gaps. People use digital platform to find health related informations such as COVID related death statistics and new guidelines, protective approaches, preventive measures, vaccine deployment and lifestyle recommendations.¹ Health literacy is defined as ‘the degree to which individuals can obtain, process, understand and communicate about health-related information needed to make informed health decisions’.^{2,3} This sea of online informations related to COVID-19 can contain accurate and incorrect information, which has brought in the new concept of ‘infodemic’ in this context.⁴ As defined by the WHO, an infodemic is ‘too much information including false or misleading information in digital and physical environments during a disease outbreak’.⁵ These Misinformation can negatively affect and endanger human health and lives^{6,7} therefore, proper tackling and management of infodemic is crucial.

Studies have shown, In terms of access and administration, there is a rapid increase in the adoption of digital health technologies such as tele-medicine over short-periods, resulting in limited supply and uneven access between various groups of the population (rural/urban; educated/uneducated).⁸

Despite of systemic comorbidities (e.g. cardiovascular diseases, cancer, diabetes, hypertension, chronic kidney disease) and higher risk of serious complications and death by COVID-19 the elderly population had limited access to the digital health technologies due to their typically lower health literacy levels in general.^{9,10,11,12} Very few studies have evaluated the health literacy levels of the elderly on COVID-19 especially in Asian population.¹³ However, to date the perception and acceptance of digital health services have not been well-documented among Asian population. The study aimed to reach the digitally illiterate population who remain unreached and address their variegated queries relating to health primarily relating to the ongoing pandemic.

II. Rationale – I

India being a developing country and community being very interactive with mohalla and para culture the luxury of mobile phones in every household is still a distant dream. However with advent of covid it soon changed to a necessity as the physical distancing came into being and all services started becoming online. Another pertinent issue came up was ignorance of using it especially the technological and linguistic barriers and failure to comprehend the online services delivered leading to ineffective service utilization. The aforesaid context and the dearth of published literature in the rural hilly terrain led the researchers to take up the pilot study with the following objectives

III. Objective:

1. To understand the interplay of communication during COVID times in the community and the challenges faced
2. To describe the newer model to the community and assess its uptake and to identify trend and type of queries received from user end
3. To formulate appropriate strategies for sustainable impacts of the newer intervention proposed

IV. Material and Methods:

Study Design & Study Setting:

Explanatory Mixed Methods community based study design (quant → QUAL), where a quantitative phase (Survey) followed by the qualitative phase (In depth interviews [IDI]) was used to supplement the data obtained from the analytical cross sectional survey. The study was undertaken in a village of Matigara Block, Siliguri Subdivision, Darjeeling district, West Bengal located near North Bengal Medical College. Every alternate house in the village was studied pertaining to the inclusion and exclusion criteria applying appropriate study tools and techniques.

Sample Size & Study Population:

The study was conducted for the period of Two month with willing participants and having a android phone as main criteria. Any death from COVID family was included by line listing additionally. A total of 126 households were enrolled with head of the family being the study subject. Moreover local leaders of eminence were also enrolled. Total 134 study subject were studied. Those having mental health illness and not willing to give consent were excluded. Theme guide was used for FGD conducted among local leaders and the peripheral health care workers and In-depth Interview by KII method was applied for data collection. Basic descriptors and the usage frequency was noted quantitatively though. Only 9 families did not have mobile phones and hence could not be enrolled for study.

Quantitative research – Survey (Quan)

Data Collection:

Using a "conventional pilot testing technique," the questionnaire was tested on a convenient sample of 30 elderly respondents in a location other than the study site. After then, it was updated to make the questions' phrasing, order, and response possibilities easier to understand. It was used to collect the data on Socio Demographic details, Morbidity Patten and the treatment taken. After obtaining informed consent, pre designed and pre-tested questionnaire is administered to collect the data. The structured questionnaire covers information on socio-demographic information, Brief history, and Diagnosis and treatment plan. Apart from this, information on accessibility , usability and availability of health services round the clock alongwith challenges faced in designated service utilization were noted.

The Concept Explanation :

Entire village after sensitised with intent, benefit of study were asked about the challenges faced during digital communication and the barriers and facilitators identified for the same. They were taught about WhatsApp audio message communication for health assistance at a designated number. Head of the family , one message was reiterated. Voluntary consent was taken. Analysis was quantitative and also by transcript recording and content analysis.

Data was collected for academic purpose only

Statistical analysis:

The quantitative data were entered in Msexcel Sheet and Missing datas and data cleaning was done and imported into the SPSS 12.0.1 software (SPSS Inc., Chicago, IL, USA) package for analysis. Simple Descriptive analysis was done to find out frequencies and percentages and for the Test of significance Chi-Square test was used.

Post Survey- Qualitative Research (QUAL):

In-depth Interviews was done with the head of the family and detailed information on use of online methods of communication was asked. The study participants were included in this study using Purposive sampling method. Interviews were conducted till the data saturation and no any new additional derived out of the transcript. The important characteristics of the sample was demographic data. The discussion with local leaders was FGD format and was audio recorded and transcribed as *verbatim* using software Express Scribe (version-5.01).

After obtaining informed consent, interviews was conducted at their home at a time convenient to the participants. Investigator trained in qualitative research techniques, conducted the interviews by using a semi-structured guideline using broad open-ended questions which was pilot tested. The participants were approached face to face. Audio recording was done along with the field notes. No one was present besides the participants and researcher. No any repeat interviews were conducted. The average duration of the interviews was 30-40mins. The transcripts were not returned to the participants and overall summary was narrated to check for the corrections.

The content of qualitative data was manually analysed. Both inductive and deductive codes created from the transcripts were used in the textual level analysis of the data. Later, comparable codes were combined to create categories, which were then subdivided into themes. The theme was derived from the data. Two researchers conducted content analysis to improve the "trustworthiness" of the findings.

Ethical Issues:-

Institutional Ethics Committee approval was obtained as was Voluntary consent taken prior to commencement of study and after explaining the content and intent of the study.

V. Results –

134 eligible study subjects were studied. KII revealed there inadequacy to access the services online completely. Digital illiteracy from both provider and user end, poor connectivity , amateur dealing of online services suddenly without any training and sudden closure of the offline services created a huge cacophony. The mass hysteria created and the PPE wears before providing offline services also added to the burning need of online services increasing the workload further. Health care providers and local leaders being providers n community opined in a FGD similar and the roadblocks faced in availability of services as well. Lack of updated versions and lack of android phones further compounded to the mayhem. A capacity building of the providers and users regarding online services was strongly recommended by the community. Poor connectivity being a issue especially in hilly terrains more towers may be built in future endeavour to smoothen the process.

Intervention explained and done was opening of bidirectional audio message from provider and user end at fixed intervals and frequency for generalized updates. Emergency calls can be done any time to another fixed number. The operationally feasible low cost model was a huge success and came as a breather since a human voice on the other end allayed their fears and anxiety better. The message was to be done by head of the family , maximum thrice a day and a response was received. Audio messages removed the roadblock of literacy status and was unanimously accepted. Even Health Workers found it easy to respond. However poor connectivity remained a issue . Voice of community was heard finally. Need for online interactive methods was reiterated by community and the present study was welcomed warmly since they had access to audio record their queries/WhatsApp their queries to the consultant 24*7. Service was accessed by 81.9%. Among them total calls related to COVID were 57.3% and 32.1% called for home quarantine advises. No untoward call came. Emergency calls were recorded on a frequency of twice per day. Misuse was minimal and the benefits large. However the audio message was sent by females (74.7%) and related mostly to child health .

VI. Discussion –

COVID and health system disruption especially for the offline modes

Though COVID-19 pandemic has affected all sectors directly or indirectly, the crisis is worse on the already overburdened health systems in many countries. A significant level of health service delivery was impacted, especially, during the early times owing to the steady spread of the virus across all settings. It posed challenge on health human resource management, facility utilization and medical supply management.

Evidences indicates that the COVID-19 pandemic has made significant disruption in health service delivery particularly in resource-limited countries (2). The COVID-19 pandemic has exposed the existing gaps in the health system (3). The COVID-19 pandemic has disrupted both preventive and curative services for communicable and noncommunicable diseases (3,4). Many of essential services have been delayed by the healthcare facilities, (5–7) patients were also unable to attend follow-ups and acute care visits due to the fear and anxiety they experienced during the pandemic waves (8).

The COVID-19 pandemic, in addition to the direct disease burden, it posed a significant risk of indirect morbidity and mortality from other preventable and treatable diseases as a result of essential health services disruption (9). The most common reasons mentioned for critical gaps or reducing services during COVID-19 were shifting of health care workers to support COVID-19 services, cancellations of planned treatments, decrease in public transport, loss of income to pay for services and limit utilization (4,10,11) and high rates of morbidity and mortality among health care workers, were another reason leading to staff shortages.

Comparison of the pre-COVID-19 era service utilization with the COVID-19 period showed that there was a substantial disparity in service delivery practice of the health facilities. A huge decline in the patient flow for routine services was noted.

The COVID-19 challenge passed strong message to the world on the need of building resilient and sustainable health system. In doing so, strong investment to strengthen the health systems including the health workforce development, creating a decent working conditions, providing training and equipment, especially in relation to personal protective equipment and occupational safety is required. Social dialogue is essential to building resilient health systems, and therefore has a critical role both in crisis response and in building a future that is prepared for health.

Challenges of online system faced

This paper presents modalities in approaches to the pandemic by various countries, and the triaged reorganization of medical sections not considered first-line in the pandemic that was in many cases transformed into wards for treating COVID-19 cases. As new viruses and structural variants emerge, it is important to find solutions to streamline medical care in hospitals, which includes the expansion of digital network medicine (i.e., telemedicine and mobile health apps) for patients to continue to receive appropriate care without risking exposure to contagions. Mobile health app development continues to evolve with specialized diagnostics capabilities via external attachments that can provide rapid information sharing between patients and care providers while

eliminating the need for office visits. Telemedicine, still in the early stages of adoption, especially in the developing world, can ensure access to medical information and contact with care providers, with the potential to release emergency rooms from excessive cases, and offer multidisciplinary access for patients and care providers that can also be a means to avoid contact during a pandemic. As this pandemic illustrated, an overhaul to streamline health care is essential, and a move towards greater use of mobile health and telemedicine will greatly benefit public health to control the spread of new variants and future outbreaks.

Connectivity barriers, infrastructure scarcity, resources and a lack of understanding from decision-makers are the major reasons behind low digital literacy in rural parts of India. Many rural areas in India do not have the required internet bandwidth.07-Feb-2023

VII. Conclusion -

The study concludes that digital illiteracy was a great challenge in accessing the online services during COVID time. The sudden closure of offline health facility was distressing for patients and they needed a human voice to communicate if not a human face. The concept of audio messages and bilateral communication was well taken and they were keen to follow it in similar situations. Health workers working in remote places found it effective and thought can be a replacement for hard to reach outreach sessions. However network connectivity needed to be ensured. Capacity building of both providers and users needed to be sustainably done, Human touch counts more in healing than a prescription online was a opinion unanimously made. Hence whatever be the advents a human touch is the best healer.

VIII. Recommendations –

Awareness generation sessions on benefits of bidirectional communication and how to utilize it rationally especially in hard to reach areas can be reinforced. More such initiatives of capacity building can offload health care workers also and equip them for more qualitative inputs. Direct communication between patients and health care facility especially at odd hours is very equipping for the community. Hence a systematic flow of the network may be maintained. Moreso it can also be used to transmit any safety ssues faced by any lady at wee hours if the call is connected to an emergency helpline of the hospital

IX. Limitations –

A pilot study with no funds and covid times was a huge limitation. Newer innovation and people taking time to adopt to the new mode was another limitation. Network connectivity was an issue . Proximity to the hospital was another limitation as many a times people walked up to the hospital 24*7 COVID Screening clinic to avail facilities rather than use the online bidirectional mode.

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