

## Interactive Voice Response (IVR) System and Health Communications: A Study of Jharkhand Mobile Radio

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### ABSTRACT

IVR systems are participatory mobile based ICTs that can strengthen community communications and amplification of people's voice and contribute to their empowerment and decentralization of governance. Jharkhand Mobile Radio (JMR) is an IVR based platform that has been in operating in Jharkhand state. The present study explored the role JMR is playing in the context of health communications within the Jharkhand communities. Through analysis of JMR health call logs, narratives in the form of stories of change from callers and focused group discussions with community women and other community stakeholders, it was evaluated that JMR contributed to improvement in health infrastructure and services significantly influencing the behavior and regularity of health functionaries on whom the platform helped create pressure and made them more accountable. Thus, a mobile based platform like JMR with the potential of facilitating change both at the individual and collective level have immense potential for building networks and enabling sharing of ideas and dialoguing of issues. IVR based ICT can address the shortcomings of community radio by enabling amplification of voice of people beyond limited geographical broadcast boundaries and offering a platform that enables transparency and openness in communications (Koradia and Seth, 2012; Koradia *et al.*, 2010).

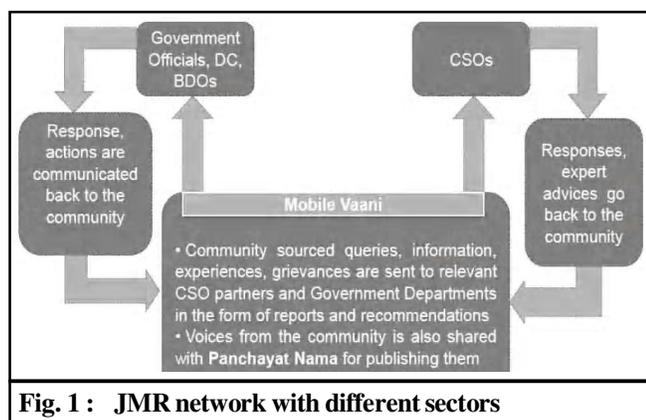
**Key Words :** Information Communication Technology, Mobile, Interactive Voice Response System, Community Communication, Health

### INTRODUCTION

Community media exists to enhance community participation with a view to bring some transformation in society (Lievrouw, 2011). Community media are media created to allow individuals to tell the stories and have the conversations necessary for their own self-directed development as citizens (Kameswari, 2011). Dialogue plays an important role in community media, in the sense that messages can be refined and new angles to the topics explored, which can enhance the understanding of the issues at hand for the community involved (Meena, Aswal,

and Gupta, 2012). Information Communication and Technologies (ICTs) empower citizens and communities in new ways that redefine governance, and create significant wealth and economic growth in many countries (Rao, 2005).

Interactive Voice Response (IVR) systems play an important role in collecting and disseminating information in developing regions using a mobile phone (Kraft and Androwich, 2012). With some 6 billion mobile subscriptions in use worldwide, around three-quarters of the world's inhabitants now have access to a mobile phone (Ng and Cumming, 2015).



Jharkhand Mobile Radio (JMR), an initiative of Gram Vaani Community Media, is an Interactive Voice Response (IVR) system that brings the principles of community radio on the phone. Anyone in Jharkhand with a phone can call on the JMR number and can contribute content, listen to content recorded by others as well as comment on the content left by others. JMR is being used by the people of Jharkhand to share their day-to-day experiences, voice their opinions on governance and other developmental issues, provide interactive programs for children based on their curricular needs as well as educational programs for adults on a range of issues like health, agriculture etc. Requiring no literacy and allowing access to anyone who can operate a phone, JMR provides a large population of semi-literate/illiterate people with a platform for accessing information and communicating with others. JMR works on a missed call-call back system. IVR in Jharkhand acts as a mobile phone-based platform for crowd-sourcing local information from remote villages, and making it available for anyone to access over phone.

## METHODOLOGY

The urgent need for the state to address health challenges is evident in its performance on key health indicators. The present study endeavors to understand the role JMR is playing in the context of Health Communications for communities of Jharkhand.

Within the larger health challenges that are being faced by the state, the study mapped the efforts and initiatives of JMR, people's participation and issues raised by them. The study also analyzed the effects on the health system that the people perceive because of the platform, and aspects influencing them, provided insights about the scope of ICTs like JMR in strengthening Health

Communications.

The study was mixed *i.e.* qualitative and quantitative research which endeavor to understand the situations in their uniqueness as part of a particular context and the interactions happening. It is a non-experimental research and purely interpretive as it tries to understand the contextual realities of the issue concerned.

For the study a mixed method approach was used to get an in-depth understanding of perceptions of various stakeholders about the platform. In order to gain a holistic understanding of JMR working and functioning, different tools were used and valuable insights were extracted from them. For conducting key informant interviews and focused group discussions, three villages *i.e.* Hesil village of Angara block and Nevri and Chakla villages of Ormanjhi block were selected. These were located in the Ranchi district where also the JMR office was located. The narratives of change were collected over phone from callers located at different districts of Jharkhand. For the content analysis of health messages, three months calls were heard and analyzed.

## RESULTS AND DISCUSSION

### Perceptions and usage of JMR:

An analysis on people's opinions and viewpoints concerning the platform facilitated through semi-structured interviews schedule was conducted with 16 key informants including JMR staff members, ASHA workers, block coordinators and NGO personnel. The major objective of the tool was to study the perceptions and usage of the platform by the key informants and evaluate the influence JMR made in the communities, highlighting on its key strengths and weaknesses. The perceptions of the key informants and their usage of the platform was a significant aspect discussed in the tool.

Also, two focused group discussions with the community women were conducted in the Nevri and Chakla villages of Ormanjhi block and community issues and challenges or constraints of the women were discussed. First FGD in Nevri village was conducted at the aaganwadi center with 8 women including ASHA workers and community mobilizer and the second FGD was conducted inside the health center with 5 women including ASHA worker.

The awareness level of the community women about the platform was observed to be much greater than what was anticipated. It was revealed that the platform was perceived as a tool of change. The change, in the context

of health which occurred because of the platform was discussed. The analysis of the responses clearly reflected the scope of IVR in empowering men and women through a positive health behavior and thus impacting the health status of the state in a strong way.

#### **Structure and functions of JMR (content analysis):**

The communications happening through JMR in the context of health were mapped and three months health related calls accessible online on the public interface provided insights on four major aspects that emerged in people's communications. This included profile of the callers, health issues raised, health infrastructure and services and community dynamics.

Analysis of people listening and participating in JMR reveal that JMR has become a popular platform amongst the people of Jharkhand and individuals are using it to articulate their health related issues. Profiling of the callers showed that more men participated on the platform than women. With less than 15% callers being women, clearly men are more vocal about their health issues and concerns than women over the platform. Women who have little freedoms and few have ownership over assets like mobile phones; therefore, remain largely marginalized on the platform articulations and are dependent on men to convey their health-related problems over the platform. More efforts are needed to enhance the participation of women over JMR. Also, the activity of districts was profiled on the basis of district from where individuals called while comparing it with the health profile of that district. Interestingly, it was found that, calls mostly were coming from districts having a better health profile and there were much less communications happening from poorer health profile districts.

Another aspect of analysis was concerning the health issues which were raised in the communications. Under the government schemes discussed, health related schemes were more emphasized. NRHM was found to be the highest scheme discussed because this health scheme is directly impacting lives of people living in Jharkhand. The ASHA worker's roles and responsibilities, functions of a PHC, CHC other components is all governed under the scheme. Early marriage was found as an important cultural issue impacting health of especially children and adolescent girls and was discussed to a greater extent. Callers provided their personal experiences on the issue. Discussion on superstitions was also quite high which clearly shows the large-scale

prevalence of these especially related to health issues.

Analysis of aspects of health infrastructure and services provided reflected in the messages drew insights about facets of health personnel, institutions and outreach services and programmes. Another issue of inadequate supply of medicines was also highlighted. Messages reiterated the fact that medicines were rarely available in the health centers. Among the outreach services and programmes, community meetings, health camps and free transportation service were largely discussed and provided insights on health system in these communities. Status of services like transportation provided to pregnant women, aid provided through health camps conducted in villages, and involvement of stakeholders in meetings, were repeatedly discussed, emphasizing on the need for proper monitoring mechanism for the services.

Discussion on these projected the initiatives which are continuously ongoing in the communities and act as an outreach service.

Community dynamics was another aspect emerging from the analysis of messages. It was analyzed that negatively oriented messages were discussed more over the platform. This clearly reflects the freedom the platform provides to the people to openly articulate complaints or negative feedbacks without any hesitation and fear. Also, in the communications, community level issues were discussed more where people shared the problems of their communities more than their individual concerns. Further it was found that in the communications disparity in power relations and domination of one over the other were discussed frequently. Communications focused on a range of power disparities which included gender, caste, class, political, religion etc. However, power disparities between government-citizens and the domination of authorities over people was the most prominent.

Analysis of formats of communications provided insight on the modes of expression used by individuals over the platform. Interesting formats like dramas, poems, stories, jokes etc. were used, that provided opportunity to emphasize more on the content of the messages. Thus, the platform was a means of cultural expression for the people too.

The communications happening over JMR involves generation of useful content. Ninety per cent of the content is user generated content which is created by diverse users who leave their messages in the form of comments, opinions, experiences ideas etc. on JMR. Only 10% of the content is placed by the organization mostly

in the form of campaigns on key local issues.

Further analysis of the messages left over JMR provides reflections on the communication dynamics that JMR has triggered in Jharkhand communities. The dialoguing about issues and the sharing of ideas, opinions, and experiences among people has led to more transparency and openness about issues and the consequent creation of new knowledge that is available for all. Analyzing people participation by expression of ideas and opinions freely and willingness to disclose themselves to others provided rich insights. The process of content creation, sharing and listening over JMR enabled individuals to develop empathy and understand each other's needs it helped them to develop realistic orientations about others and their contexts. Also, to center stage issues and evoke communications around these central issues JMR runs different programmes and campaigns within which important health information gets delivered (Gram vaani Community Media Pvt. Ltd., 2013). They feel capacitated and skilled, as knowledge is available to them.

These aspects of JMR are thus responsible for developing capabilities, skills and knowledge of people. Also, the various inter-personal activities conducted by JMR which involves community meetings, training and orientations have helped build capacity and confidence about the technology in communities. Training of community volunteers, demonstrations meetings with community men and women enables their capacities and skills get enhanced. People try, learn and become creative efficient and effective participants. Thus, Inter Personal Communication done by JMR builds key capacities of people and thereby enhancing knowledge, awareness, ideas, attitudes and motivation of people to participate. This together enables changes at individual level to participate and voice out concerns freely. As a result, voices of people together get amplified and thus pressurize the target authorities or health service providers to change.

#### **Narratives of change:**

People's narratives about effects of JMR provided interesting insights about the role of JMR in triggering change. Narratives highlighted the changes in individuals due to their participation in JMR. Individual's awareness, knowledge and ideas have enhanced about health issues and their participation in community-based organizations increased. Narratives further revealed that the platform

has provided vulnerable groups opportunities to participate freely and share their opinions. However, the platform has not been able to encourage women's participation which remains dismal.

It was reflected in the narratives that the functioning and facilities at health centers has also improved due to JMR activities. Existing health centers have started providing people with medicines and people don't have to spend their money for basic services. Another aspect of change reiterated was regularity and attitude of health functionaries which has also seen some improvement. It was revealed that the health staffs including ASHA worker, ANMs, Health supervisors have become punctual in their arrivals and performance of tasks. They now work with zeal and dedication which is seen in the regularity of their work and the approach towards common patients followed by them. ASHA workers duties required them to make visits door to door visits and provide health related information to people, an aspect they had now started doing regularly.

Communications through JMR is improving the individual positive health behavior. When the health infrastructure and functionaries will improve their services and the approach of service delivery, improved health access for people can be anticipated. Participation in communications over platform is influencing behavior of individuals in the context of health and the service delivery system. The glimpses of which were emerging in the communities. Narratives also reflected that mindsets of people have been influenced by communications over JMR. Myths and rigid minds are altering and giving way to greater credibility and priority to medical assistance and health care services.

JMR is emerging as a popular platform which is responsible for strengthening community communications and amplification of voice of people. The insights on the structure and functions of the platform provided understanding about JMR working as a community media. Four major aspects about JMR were analyzed to be key enabling aspects influencing community communications over the platform. These included the institution's policy of moderation of content placed on JMR, nature and characteristics of programmes broadcasted and the issue they raised, physical and technical aspects of the technology that enabled reach, flexibility in access and diversity of participation on the platform and inter personal communication based activities and support provided by the JMR team. These aspects together form the

underlying organizational aspects influencing communications over JMR.

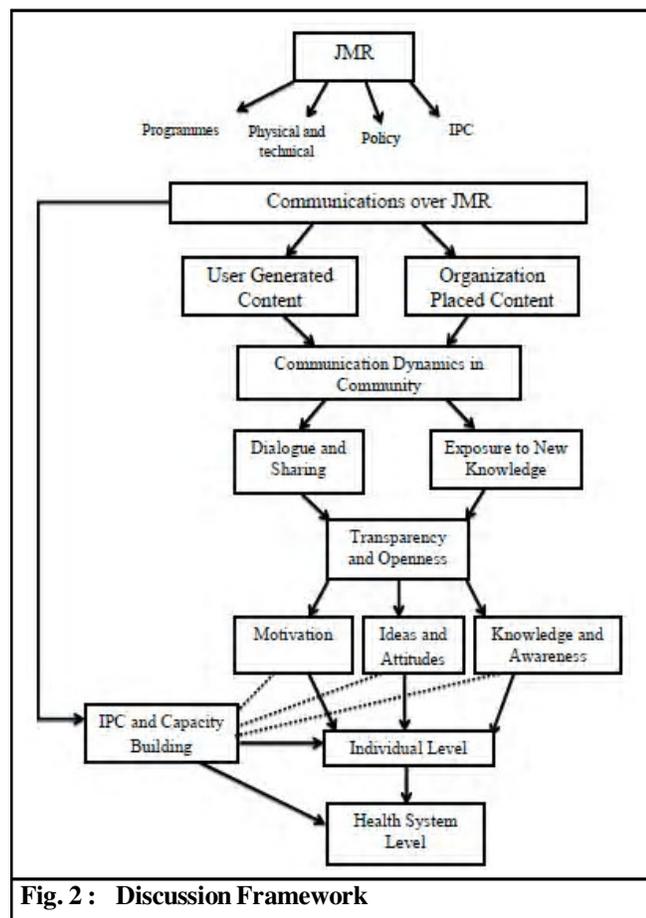


Fig. 2 : Discussion Framework

### Summary and Conclusion:

The IVR system facilitated in enabling a dialogue over prevalent health issue and thereby creating pressure on the authorities and affected individuals to initiate a change. The platform holds the power of creating community communications and clearly breaks the spiral of silence theory of majority opinions dominating minority opinions and instead offers the minority opinions to come forward. The Health Belief Model (HBM) is by far the most commonly used theory in health education and health promotion (Hayden, 2009). JMR enabled a change in health behavior of individuals by providing them with the health information and also taking information from them. In the context of JMR, it can be said that change in behavior of individuals can occur if adequate information is made available to them. The information is in the form of content generated by users and also as the content placed by JMR expert team. Discussions and the co

creation of content on various health issues over the platform enable all its aspects of issues to getting highlighted and the desired behavior is also correctly projected. Furthermore, the communication about issues and the generation of content by users greater is the larger perception about the seriousness of the issue. Further dialogue and sharing enable people to identify and also comprehend the risk attached with the issue whether it is a disease or lack of health infrastructure and position the effects associated with the issue for them. Thus, people are motivated to look for localized sustainable solutions having better perceived the benefits and barriers for adopting change being advocated. The repeated discussions on issues highlight the desired behavior, acting as the cues to action and also enable people to evaluate their efficacy to adopt that behavior. Thus, IVR platforms have immense potential for Health communications and improving the health scenario in communities. IVR systems are participatory mobile based ICTs that can strengthen community communications and amplification of people's voice and contribute to their empowerment (Vijaybaskar and Gayathri, 2003).

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