Risk communications in the early phase of the COVID-19 pandemic: The Maldives' experience

THASLEEMA USMAN[1], & SHEENA MOOSA[2]

[1]*Ministry of Health*
[2]*The Maldives National University*

ABSTRACT *Risk communication strategies and modalities are at the heart of the pandemic response containment and mitigation. As the pandemic unfolded across the world, a small island country like the Maldives in democratic transition and highly dependent on other economies perceived risks beyond that of health effects to the economic and political spheres. In this context, the multi-media approach adopted in communicating risks and response interventions were effective in building confidence in the national response towards transmission of COVID-19 specific knowledge and prevention behaviour. Despite best efforts, shortcomings were experienced in reaching vulnerable segments such as migrants and persons with disabilities. The prolonged pandemic demands re-focussing risk communication towards empowering institutions for providing low risk modalities for individuals returning to work and daily life with preventive behaviours.*

Keywords: risk communication, COVID-19, pandemic, public confidence, Maldives

Effective risk communication is an integral part of response in any emergency and its importance is multiplied in a pandemic situation, as has been experienced in previous pandemics (WHO, 2020). With the global connectivity, there is excessive information available to public, including fake news which makes public indecisive in identifying appropriate solutions regarding health care (O'Connor, & Murphy, 2020). Furthermore, pandemics have far reaching implications for societal functioning, rights and freedom of the citizenry (Chatterjee et al., 2020). Reducing the impact of the pandemic is particularly crucial for small island countries highly reliant on tourism and external economies and limited response capacity (Suzana et al., 2020). In this situation of infodemics, a well-planned risk communication strategy is critical to address public concerns, facilitate access to accurate information and build trust in public institutions (Vinck et al., 2019).

The risk communication strategies in a crisis primarily focuses on building public confidence in the institutions and their ability to deal with the risk (Covello, 2010). While this is so, to be effective, the communication strategy needs to be framed around key principles of communication such as accessibility, understandability, relevance, time and credibility (WHO, 2017). The approach to risk communication, similar to other communication campaigns, include reviewing issues related to the problem, audience segmentation and framing specific objectives of informing and empowering the public on actions to take before, during and after the crisis, which

may also involve gaining consensus on appropriate behaviour and levels of risk (Covello, 2010; O'Sullivan et al., 2003; WHO, 2020). In addition, WHO (2020) noted the importance of establishing baselines and monitoring the impact of the communications and progress towards achieving the objectives while implementing risk communications to inform improvements in the implementation and make adjustments to the communication approaches.

In this paper, we discuss the strategic approach and modalities adopted by the authorities of the Maldives to communicate the risk of the pandemic and its effects in terms of public's knowledge of disease prevention and building public confidence in the national COVID-19 response.

Materials and Methods

Based on the evolving nature of the pandemic and its risk communication response, the study adopted a participatory action research method (Kochy et al., 2010). Action research involves the "systematic collection and analysis of data for the purpose of taking action and making change" by generating practical knowledge (Gillis & Jackson, 2002, p. 264).

As noted by other researchers, action research relies on multiple data sources, in part to enhance legitimacy of the research, and to improve quality of the findings by triangulation of data from different sources (MacDonald, 2012). As such, data for this study was gathered for the period March to May 2020 through in-depth interviews with the team members of risk communications cluster at the Maldives National Emergency Operations Centre for COVID-19. The interviews focussed on understanding the decision-making process regarding scoping, the audience segmentation, choice of mediums, content and prioritisation. Additionally, analysis was carried out on the records and data kept by the communications team. Records and materials reviewed included process flow, concept notes, risk communication strategy, monitoring sheets, and cluster meeting notes,. Further, records of data from medial monitoring, social listening were used to triangulate the findings.

Results

The interviews with the team members indicated that the strategy of risk communication for COVID-19 in the country was scoped beyond the health risks (Figure 1). The results also showed that the audience segmentation and messaging is consistent with the principles of the communication strategy.

Table 1 shows that the risk communication implemented a wide range of communication strategies and medium including traditional and digital media that has enabled access to a large segment of the population. Results showed that HPA official website and social media platforms are most popular with 99,352 subscribers to the HPA viber community.

The results of bot quiz show that knowledge on COVID-19 transmission and preventive measures is high (Table 2), but not adequate with regard to symptoms of COVID-19.
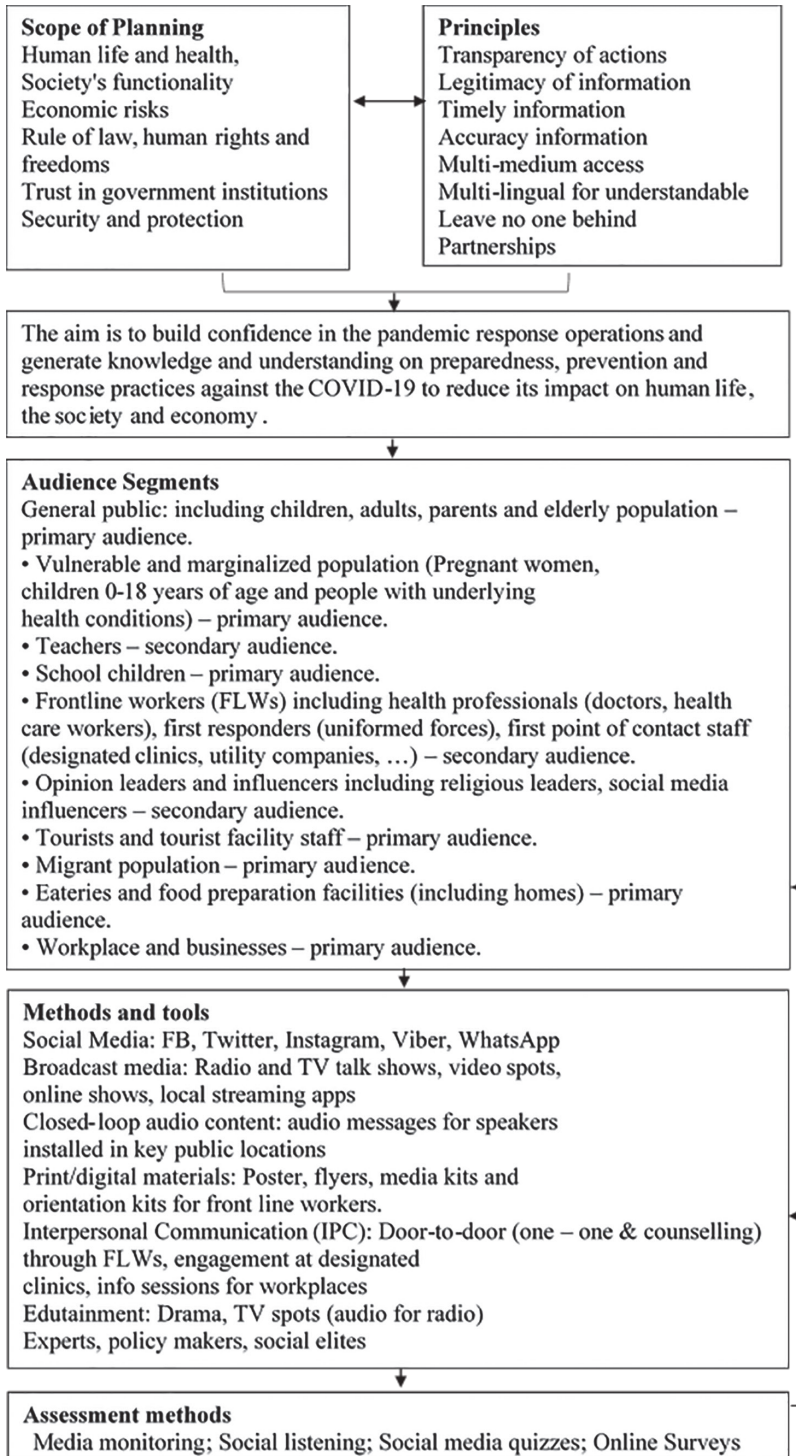
Scope of Planning
Human life and health,
Society's functionality
Economic risks
Rule of law, human rights and
freedoms
Trust in government institutions
Security and protection

Principles
Transparency of actions
Legitimacy of information
Timely information
Accuracy information
Multi-medium access
Multi-lingual for understandable
Leave no one behind
Partnerships

The aim is to build confidence in the pandemic response operations and generate knowledge and understanding on preparedness, prevention and response practices against the COVID-19 to reduce its impact on human life, the society and economy.

Audience Segments
General public: including children, adults, parents and elderly population – primary audience.
• Vulnerable and marginalized population (Pregnant women, children 0-18 years of age and people with underlying health conditions) – primary audience.
• Teachers – secondary audience.
• School children – primary audience.
• Frontline workers (FLWs) including health professionals (doctors, health care workers), first responders (uniformed forces), first point of contact staff (designated clinics, utility companies, …) – secondary audience.
• Opinion leaders and influencers including religious leaders, social media influencers – secondary audience.
• Tourists and tourist facility staff – primary audience.
• Migrant population – primary audience.
• Eateries and food preparation facilities (including homes) – primary audience.
• Workplace and businesses – primary audience.

Methods and tools
Social Media: FB, Twitter, Instagram, Viber, WhatsApp
Broadcast media: Radio and TV talk shows, video spots, online shows, local streaming apps
Closed-loop audio content: audio messages for speakers installed in key public locations
Print/digital materials: Poster, flyers, media kits and orientation kits for front line workers.
Interpersonal Communication (IPC): Door-to-door (one – one & counselling) through FLWs, engagement at designated clinics, info sessions for workplaces
Edutainment: Drama, TV spots (audio for radio)
Experts, policy makers, social elites

Assessment methods
 Media monitoring; Social listening; Social media quizzes; Online Surveys

Figure 1. Risk communication framework adopted various methods in the early phase of the pandemic.

Table 1

Reach through Media of Risk Communication of COVID-19 in the Maldives (March-May 2020)

Type	Mediums	Number
Traditional	Call Centre (1676) (Calls attended)	76,215
	Email (mails attended)	11,279
News Media	TV/Radio	
	Press briefings	134
	Appearances	233
Bot	COVID-19 Response (members)	22,583
Publications	Publications in 6 languages (Dhivehi, English, Bangla, Malayalam, Sinhala, Nepali)	29
	Items disseminated	104,382
	Graphics	200
	Animations	60
	Posters	25
	Videos	15
	Story books	2
	Songs	5
Public screens	Digital and print	342
Social media platforms Health Protection Agency (HPA	HPA Viber community (subscribers)	99,352
	HPA Facebook	
	Posts	514
	Fans	50,630
	Engagements	178,124
	HPA Twitter	
	Tweets	651
	Followers	51,615
	Engagements	201,745
	Instagram (views)	4,907
Websites	HPA Official Website (page views)	381,578
	GOV.MV (page views)	62,525

Table 2
Effect of Communication Interventions: Results from Bot Quiz (N= 3028)

Knowledge parameters	Number	Percent
Correctly identifies modes of COVID-19 transmission	2462	81.3
Correctly identifies prevention measures of COVID-19	2620	86.5
Correctly identifies population at risk of infection	2860	94.5
Correctly identifies common symptoms	1536	50.7
Correctly identifies duration for handwashing	2773	91.6
Correctly identifies safe physical distance to be kept	2912	96.2

Discussion

The nature of pandemic containment interventions that limit the freedom of movement has far reaching implications for societal functioning. The interventions for COVID-19 containment in normal circumstances are seen as authoritarian and breaching on individual rights and freedom and can lead to disruptive outcomes, not only in containment of the disease, but for the credibility of public institutions as well (Huynh, (2020). Hence, it is now widely accepted that the pandemic poses economic and political threats in addition to human life (Chatterjee et al., 2020; Cowper, 2020).

The assessment of the results of interventions through bot quizzes and tapping into academic research is innovative in well adapted archipelagic small island context. The bot quiz indicated a high level of correct knowledge on the modes of transmission and prevention methods. This finding was supported by other research at population level that showed high level of knowledge and compliance (90%) with the stay home orders at the time of lockdown (Moosa et al., 2020a), however, studies conducted later showed that adoption of prevention measures is lower with about two third of the population practicing hand hygiene and wearing face masks and only half maintaining safe social distancing (Moosa et al., 2020b).

Social media platforms have propelled easy reach not only to a large population, but also to specific segments of the society that is otherwise hard to reach (Smith & Judd, 2020; Zhao, et al., 2020). In the Maldives the use of multiple media, traditional and social media were essential to reach the geographically dispersed population of the islands as evident by the engagements in HPA social media platforms. Other studies in the country have also noted that HPA as the preferred source of information and Viber as the most common medium of finding information, indicating the effectiveness of the extensive use of digital and social media (Moosa et al., 2020a). Furthermore, among the messaging tools, the large number of viewers of graphics indicates that it is a more effective method of risk communications. Graphics has also shown to be effective for younger audiences and those with lower literacy in other studies (Mohamad & Azlan, 2020; Zhang et al., 2020). Multi-lingual messaging was adopted in the risk communications, however, the study did not find records of monitoring activities that could provide an indication of the effects of this approach. Going forth, it is important that

monitoring activities also reflect the approaches and methods used in reaching different segments of the population.

Identifying the risks beyond health in the face of a pandemic is particularly significant for a small island developing state like Maldives, that is highly dependent on other countries for economic survival through tourism, as well as securing even the basic commodities such as staple food and medicine.

The wide scoping is significant in the country context as, with rapid democratisation in the past decade, the Maldivian society is still struggling with the trade-offs between individual rights, freedom and gaining trust in the public institutions (UNDP, 2019). The examination of the risk communication interventions show that intensive efforts were put into building public confidence in the national pandemic response with the frequent and timely press appearances of experts, policy makers and the appointment of the spokesperson. Ensuring public confidence has been identified as a critical for a whole of society approach that was required in the COVID-19 pandemic (Azhar et al., 2020; Finset et al., 2020).

Trust is one of the most critical parameters that generate public's acceptance of the risk communication messages (Balog-Way & McComas, 2020; Jacobsen & Vraga, 2020). The featuring of policy makers and institutions outside of the health in messaging and press can be said to have provided the public with confidence on the preparedness of the public institutions and provide them with a sense of a united national response (Finset et al., 2020; La et al., 2020; Mourad et al., 2020; Zhao et al., 2020). Other studies in the country reported that public rating of the national pandemic response was high with a score of 7 out of 10 (Moosa et al, 2020a). Transparent communication on response was evident in the frequency and content of press briefings that was initiated much before the detection of any case in the country. The correct balance of transparency is important towards building public confidence in the response situation such as this pandemic where the science is evolving which brings in uncertainties (Balog-Way & McComas, 2020).

Health education and behaviour change was particularly challenging given the frequently changing information about the SARS-Cov-2 that inadvertently creates uncertainty and panic (Finset et al., 2020). Hou et al. (2020) notes that media monitoring is essential for effective communication response and address fake news infodemic. Media monitoring is embedded as a routine function of the risk communication team, reviewing engagements and listening that guide messaging and communication interventions. It has been noted that when science-based and reliable information is introduced quickly and consistency is provided, the media and community shifts to the legitimate information sources (Gallotti et al., 2020; Garrrett, 2020). The use of mass media, social and traditional media parallelly, and swamping the social and mass media with information from the HPA in a timely manner, use of doctors and public health experts in delivering correct information and legitimising the information have shown to be effective as evident from the interactions in the social media platforms. Swamping with accurate information that is easy to understand in a medium that is easy to share and filling any information gaps are effective ways to address inaccurate information (Llewellyn, 2020). Risk communication adopted similar methods to address misinformation along with graphics and animation to explain technical information and that makes

information easy to understand by a range of audiences (Mohamad & Azlan, 2020).

While overall the risk communication approach utilised by the relevant authorities in the Maldives appears to be successful, there are caveats with regard to marginalised population groups such as people with disabilities, elderly and migrants. While inclusion is featured in risk communication principles, with sign language translation during press briefing, the content and messaging lacks features to empower the wider range of disabilities including the blind and those with psycho-social disabilities. The multilingual approach in the risk communication though applaudable, the foreign migrant residents in the country have low literacy and may not be empowered to take preventive actions (Bikbov & Bikbov, 2020; Plewa, 2019).While different target audiences were identified in the communication strategy, the monitoring activities did not have a mechanism to capture the effects of communications on these specific segments of the population that can inform changes that need to be brought to target certain audiences. Hence, it is likely that these audiences may have not been empowered to the same level as the general public and needs further study and exploration.

Conclusion

Risk communication scoped beyond health with the focus on building public's confidence in the response through multi-media approach has been effective. The prolongation of the pandemic poses challenges to sustain the high level of focussed risk communication. More attention is required to ensure risk communication addresses those that are currently left behind due to their vulnerabilities. Further, there should be mechanisms put in place to monitor the impact of the communication. A longer-term approach is needed to empower the community to return to normative societal functions by providing supportive environments and adopting modalities to live and work that lowers the risk of transmission of COVID-19, while awaiting preventive or treatment discoveries.

References

Azhar, M. (2020). Government strategy in implementing the good governance during COVID-19 pandemic in Indonesia. *Administrative Law & Governance Journal, 3*(2), 300-313.

Balog-Way, D. H., & McComas, K. A. (2020). COVID-19: Reflections on trust, tradeoffs, and preparedness. *Journal of Risk Research*, 23(7-8), 838-848, DOI:

10.1080/13669877.2020.1758192.

Bikbov, B., & Bikbov, A. (2020). Communication on COVID-19 to community – measures to prevent a second wave of epidemic. *OSF Preprints.* doi:10.31219/osf.io/ea9jm

Chatterjee, R., Bajwa, S., Dwivedi, D., Kanji, R., Ahammed, M., & Shaw, R. (2020). COVID-19 Risk Assessment Tool: Dual application of risk communication and risk governance. *Progress in Disaster Science,* 100109.

Covello, V. T. (2010). Strategies for overcoming challenges to effective risk communication. In *Handbook of risk and crisis communication (pp. 155-179). Routledge.*

Finset, A., Bosworth, H., Butow, P., Gulbrandsen, P., Hulsman, R. L., Pieterse, A. H., ... & van Weert, J. (2020). Effective health communication–a key factor in fighting the COVID-19 pandemic. *Patient Education and Counseling, 103(*5), 873.

Gallotti, R., Valle, F., Castaldo, N., Sacco, P., & De Domenico, M. (2020). Assessing the risks of "infodemics" in response to COVID-19 epidemics. arXiv preprint arXiv:2004.03997.

Garrett, L. (2020). COVID-19: The medium is the message. *The Lancet, 395*(10228), 942-943.

Gillis, A., & Jackson, W. (2002). *Research methods for nurses: Methods and interpretation.* Philadelphia: F.A. Davis Company.

Hou, Z., Du, F., Jiang, H., Zhou, X., & Lin, L. (2020). Assessment of public attention, risk perception, emotional and behavioural responses to the COVID-19 outbreak: social media surveillance in China. Preprint medRxiv. doi: https://doi.org/10.1101/2020.03.14.20035956

Jacobsen, K. H., & Vraga, E. K. (2020). Improving communication about COVID-19 and emerging infectious diseases. *European Journal of Clinical Investigation, 50*(5), e13225.

La, V. P., Pham, T. H., Ho, M. T., Nguyen, M. H., P Nguyen, K. L., Vuong, T. T., ... & Vuong, Q. H. (2020). Policy response, social media and science journalism for the sustainability of the public health system amid the COVID-19 outbreak: The Vietnam lessons. Sustainability. *SocArXiv cfw8x, Center for Open Science.*

Llewellyn, S. (2020). COVID-19: how to be careful with trust and expertise on social media. *British Medical Journal, 368. doi: 10.1136/bmj.m1160.*

MacDonald, C. (2012). Understanding participatory action research: A qualitative research methodology option. *The Canadian Journal of Action Research, 13*(2), 34-50.

Mohamad, E., & Azlan, A. A. (2020). COVID-19 and communication planning for health emergencies. *Jurnal Komunikasi: Malaysian Journal of Communication, 36*(1).

Moosa, S., Suzana, M., Najeeb, F., Abdul Raheem, R., Ibrahim, A., Riayaza, F & Usman, S. K. (2020a). Socio-economic aspects of COVID-19 in the Maldives. Round One (May 2020). https://covid19.health.gov.mv/.

Moosa, S., Suzana, M., Najeeb, F., Abdul Raheem, R., Ibrahim, A., Riayaza, F &

Usman, S. K. (2020b). Socio-economic aspects of COVID-19 in the Maldives. Round Two (June 2020). https://covid19.health.gov.mv/

Mourad, A., Srour, A., Harmanani, H., Jenainatiy, C., & Arafeh, M. (2020). Critical impact of social networks infodemic on defeating coronavirus COVID-19 pandemic: Twitter-Based Study and Research Directions. arXiv preprint arXiv:2005.08820.

O'Connor, C., & Murphy, M. (2020). Going viral: doctors must tackle fake news in the COVID-19 pandemic. *British Medical Journal*, *24*(369), m1587.

O'Sullivan, G. A., Yonkler, J. A., Morgan, W., & Merritt, A. P. (2003). *A Field Guide to Designing a Health Communication Strategy. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs.*

Plewa, P. (2019). Migration in Maldives: A country Profile, International Organisation for Migration

Smith, J. A., & Judd, J. (2020). COVID-19: Vulnerability and the power of privilege in a pandemic. *Health Promotion Journal of Australia*, *31*(2), 158.

Suzana, M., Moosa, S., Rafeeg, F. N., & Usman, S. K. (2020). Early measures for prevention and containment of COVID-19 in the Maldives: A descriptive analysis. *Journal of Health and Social Sciences*, *5*(2), 251-264.

UNDP. (2019). *Assessment of the Justice Sector Reform Proposals: Final Report* (unpublished)

Vinck, P., Pham, P. N., Bindu, K. K., Bedford, J., & Nilles, E. J. (2019). Institutional trust and misinformation in the response to the 2018–19 Ebola outbreak in North Kivu, DR Congo: a population-based survey. *The Lancet Infectious Diseases*, *19*(5), 529-536.

Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., … & Drury, J. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour,* 1-12.

World Health Organisation (WHO). (2017). *WHO strategic communications framework for effective communications*. World Health Organisation.

World Health Organization (WHO). (2020). Risk communication and community engagement readiness and response to coronavirus disease (COVID-19): interim guidance, 19 March 2020 (No. WHO/2019-nCoV/RCCE/2020.2). World Health Organization

Zhang, L., Li, H., & Chen, K. (2020, March). Effective risk communication for public health emergency: Reflection on the COVID-19 (2019-nCoV) outbreak in Wuhan, China. *Healthcare, 8*(1), 64.

Zhao, Y., Cheng, S., Yu, X., & Xu, H. (2020). Chinese public's attention to the COVID-19 epidemic on social media: observational descriptive study. *Journal of Medical Internet Research*, *22(*5), e18825.