

Covid-19 in Bangladesh, Pakistan, and Nepal

Brown University, Center for Contemporary South Asia (CCSA) & School of Public Health

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~prepared by Rehan Jamil

Professor Prerna Singh introduced the panel: Mushfiq Mubarak (Yale University) & Asim Khawaja (Harvard University) & Ramu Kharel (Brown University)

1. Professor Mushfiq Mubarak, Professor of Economics, Yale University

Bangladesh:

I will talk about a research project I am implementing in Nepal, Bangladesh, Pakistan, and India and focus primarily on the first three countries. This project started as a randomized control trial (RCT) with a behavioral and an epidemiological component. This was done in collaboration with Stanford Medical School and Innovations for Poverty Action (IPA), Yale University. Since then, we have scaled up the program with other partners such as BRAC in Bangladesh, Lahore University of Management Sciences (LUMS) and the Khyber-Pakhtunkhwa provincial government in Pakistan and the Self-Employed Women's Association (SEWA) in India.

Why are we researching mask adoption? Because it is still a major issue in South Asia, as universal vaccination is a long way away and containing the spread of Covid-19 in the interim, is a serious challenge. The first stage of the project focused on how to get people to wear masks and the second stage examined whether wearing a mask reduced the spread of Covid-19. We conducted a clustered RCT in six hundred villages with over 340,000 adults in rural Bangladesh. We tested the efficacy of two types of masks: cloth and surgical masks.

The project was motivated by two questions: how do you get people to wear masks and when people do wear masks, does it bring down Covid-19 infection rates. Our results show that four factors led to a significant increase in mask usage. These are:

1. Free door to door mask distribution
2. Offering information on masking wearing via videos and brochures
3. Norm's reinforcement campaigns – in person and in public, reminding people to wear a mask and socially distance
4. Modelling and endorsement by public leaders and influencers such as imams of local mosques and celebrities

In the experimental areas, mask usage went up from 13 percent went up to 42 percent. This effect was sustained ten weeks after the intervention ended. The norms reinforcement intervention increased physical distancing by five percentage points. Our research shows that surgical masks were very popular, and we now have experimental evidence that their usage is highly effective.

In the second stage of our research, we studied whether mask wearing reduced the spread of Covid-19. In our study we only tracked symptomatic transmission. We found that there was a 12 percent drop in symptom reporting due to wearing cloth or surgical masks. In villages where surgical masks were distributed, the effect was larger, in comparison to areas where cloth masks were distributed.

Our study was scaled up to other parts of South Asia. In India we partnered with the NGO SEWA to implement the study. In Bangladesh, we partnered with the Ministry of Health and BRAC and were given access to half the districts in the country. In Pakistan, our partner was the City Commissioner of the Lahore in the province of Punjab. In Bangladesh, we did a door-to-door mask distribution campaign. In urban areas in Pakistan, we used the Pakistan Postal Service to distribute masks cost effectively. In Nepal, we are working with the Rapid Action Task force and have picked three regions to conduct a pilot study and plan to scale up the study nationwide. We have also partnered with cricket and entertainment celebrities in Nepal. While the study's primary focus has been on South Asia, we would like to scale up the study to other parts of world and change the conversation around mask wearing.

2. Asim Khawaja –Professor of International Finance and Development, Harvard University

Pakistan:

I am going to give you a snapshot of some of the ongoing work we are doing with the Punjab Health Department and other partners since the pandemic started. The Pakistani government did a fairly good job of data driven lockdowns throughout the early phase of the pandemic. There is clear evidence that these targeted lockdowns were effective in reducing transmission, despite the economic costs associated with them. Mortality rates, as expected, were higher with age, and to some extent amongst men. The average mortality average was approximately 2 percent, but we see variation in mortality at different points in time.

The Pakistani government did a pretty good job of contact tracing. In our research, we surprisingly find only 2 percent of contacts were infected. So, the idea that large households are more vulnerable to Covid-19, does not bare out in the data we collected. We also expected younger people to be bigger spreaders, but our data shows elderly people infected twice as many people as young people. This may be due to higher viral loads amongst the elderly.

Pakistan has also done a decent job with its vaccination campaign. Ten percent of the population is fully vaccinated. Our survey in Lahore shows 20 percent were anti-vaccination. When we examined reasons for hesitancy, people were concerned about side effects, but convenience of cost was a big reason reported.

With regards to positivity rates versus true virus prevalence rates, we observed strong differences in Pakistan, as in many other countries. Private labs on average reported higher positivity rates than public labs. We also observed differences in positivity rates amongst the various test kits used. Therefore, it is critical that standardized protocols are adopted.

We are working with the Centre for Economic Research Pakistan (CERP) and have implemented surveys to show the socio-economics effects of the pandemic and the abatement measures implemented to reduce them. Food security remains high in Pakistan. However, a lot of people reported being unable to pay bills. Only a quarter of eligible people reported gaining access to the

Ehsaas safety net. 1 in 5 people reported the need to borrow money. These findings suggest the need to focus on the long-term socio-economic costs of the pandemic.

Overall, Pakistan has done well in managing the pandemic. It is encouraging that the Pakistani government has used data to inform policy, but the quality of data is a challenge. Vaccination rates are improving but there is a long way to go.

3. Ramu Kharel – Global Emergency Medicine Fellow in the Department of Emergency Medicine at Brown University

Nepal:

I will give you sense of Nepal's experience with Covid-19, based on survey work I have done there with female community health workers (FCHWs). Nepal has a population of thirty million people and over 80 percent of the population lives in rural areas. However, despite this, Nepal's health care system is very Kathmandu—centric. There are only 1200 ICU beds in the whole country. Rural citizens face challenges in accessing tertiary healthcare, which was exacerbated during the pandemic.

Nepal and India's epi-curves mirror each other with a lag of few weeks. The Covid-19 infection rate in Nepal is the worst in South Asia. Most infected people in Nepal are young people. The pandemic has been heavily concentrated in the Kathmandu valley and the districts neighboring India.

Nepal's weak healthcare system collapsed during the peak of the pandemic. During the second wave some challenges came to the forefront, particularly the critical shortage of ICUs, ventilators, and oxygen supply. We also observed that rural people suffered most, because of long travel distances to the hospital infrastructure concentrated in Kathmandu.

Nepal also experienced many coordination challenges. Like other South Asian countries, Nepal has many NGOs, but has a very weak local government, with limited capacity to coordinate an effective public health strategy. A crisis management committee was established but its relationship with the Ministry of Health was unclear.

Finally, data availability remains a major problem in Nepal. Because we had no readily available rural data, we decided to conduct a rapid survey. We partnered with FCHWs who are the core of the rural health system. Health workers are the last mile in the health system. 86 % of FCHWs reported that the communities they met did want to get tested. The issue was cost and logistics. Mostly people surveyed reported having to travel long distances to get tested and vaccinated. Sixty-three percent of respondents said they needed to travel at least one hour to access health services. Very few citizens reported hesitancy about taking vaccines. The high penetration of rural health workers in Pakistan, is severely lacking in Nepal, and this has had a negative impact.

There are strong ethical grounds for sending vaccines to countries like Nepal, where people are waiting for increased and easy availability of the vaccines. Going forward, using the FCHW network would be helpful for the country to penetrate rural areas. Oxygen plants need to be built to address the supply side shortages and Nepal needs an increased supply of vaccines.

Q/A Session:

Prerna Singh: The motivation for today's panels was to understand variation in Covid-19 across South Asia. Pakistan and Bangladesh seem to have managed fairly well in terms of control of the virus and vaccination take up rates. Sri Lanka is somewhere in between, and India and Nepal have done quite poorly. Yet when we think of state capacity, Pakistan and Bangladesh are not typical examples of strong state capacity. So how do we understand these variations in covid mitigation policies across South Asia, when they do not align with conventional theories of state capacity?

Mashail Malik: I have a question for Mushfiq, do think respondents of self-reporting of covid symptoms and lack of random sampling of blood could have biased your study's results?

Student Question: This is an excellent experimental study but what about external validity of the study and take away for other areas outside South Asia including the United States?

Mushfiq Mobarak: on self-reporting of Covid-19 systems, we chose our primary outcome to be symptomatic prevalence for the study to be sufficiently statistically powered. For asymptomatic cases we would have needed thousands of additional test results, which was not cost efficient. Text message reminders etc. did not work well. But If I had to choose one thing that was most effective, it was the reinforcement component, stopping people and reminding them about the importance of masks created a positive effect through shaming.

On the big picture question regarding policy responses in South Asia, the pandemic enabled partnerships between researchers and policy makers, and we hope these partnerships will lead to more evidence-based policy responses

With regards to external validity, I do not think we can take the results of experimental trial in rural Bangladesh easily extrapolate it to urban Bangladesh or Pakistan. Sensible and context specific adaptations are necessary and further research is needed.

Ashutosh Varshney: the bigger question Prerna asked is what explains why Bangladesh and Pakistan have done so much better than India and Nepal in handling the pandemic. Sri Lanka is not a middling case because it has some of the highest vaccination rates in the region. Are there other factors that such masking, lockdowns, social distancing that were bigger explanatory factors in explaining differences between the South Asian countries' responses to the pandemic?

Asim Khawaja: I want to caution that we have very few data points to make strong causal arguments comparing countries. My sense is that high levels of local variations could make big structural comparisons between countries, somewhat misleading. I think that if we compare these countries, we should compare the process of policy making. The good news, even in countries like India, was there was a lot more openness to data-based policy making, even in settings where the outcomes were far from desirous. And second point worth emphasizing was the willingness of bureaucrats and public servants to put themselves in harm's way, which was very commendable.

Prerna Singh: I accept the point about very high levels subnational variation, but I am struck by the underlying politics that motivated policy making. In India, the BJP government subsidized participation in the Kumbh Mela and while Pakistan, an Islamic republic, banned travel to the Hajj

pilgrimage. Therefore, isn't politics an important variable to explain differences in the spread of Covid-19 in the region?

Ramu Kheral: I agree with Asim that comparing differences in strategies between countries would be speculative at this stage, because we simply do not have enough data to compare these countries at this time. A positive concluding note is that Nepal completely had to rely in its own systems rather than India or China and I think despite the failures this may lead to greater self-reliance in the long run.