

Strategies for COVID-19 control among migrant labourers in a developing country setting: Pathanamthitta model from Kerala

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ABSTRACT

Background: The ongoing pandemic of Covid-19 is a public health emergency with serious implications world-wide including India. Vulnerable population like migrants are often left out of epidemic preparedness planning and reaching out these marginalized population is a challenge. **Objective:** To describe different strategies implemented for control and prevention of Covid-19 among migrants in Pathanamthitta. **Results:** Strategies for Covid-19 control among migrant labourers were planned and implemented with intersectoral coordination and community participation. Line listing and risk stratification, mobilisation of community volunteers, contactless active symptomatic surveillance using technology, IEC activities for awareness generation in multiple languages, sample collection, testing and distribution of personal protective equipment's were initially implemented. Setting up of a call centre facility assisted with M health technology exclusively for addressing concerns of migrants was first and one of its kind in the country. In addition to that special measures were taken to improve adherence and wellbeing of migrants which included addressing medical needs of migrants including psychological needs, ensuring food security, migrant hostels for the providing shelter, basic health care, isolation facilities and arranging transportation facilities for more than 10,000 stranded migrants. The success of these strategies was evident from the fact that not even a single migrant labourer was tested positive in the district during this period **Conclusion:** Pathanamthitta district being in a resource constraint setting showed a very effective model by implementing technology assisted strategies tailored to the needs of population. The success of these highly effective and replicable strategy underlines the need to incorporate principles of primary health care in crisis management.

Keywords: Covid - 19, migrants, strategies, kerala

Background

The pandemic of COVID-19 has created a global health crisis that has had a deep impact on the population across the globe including India.^[1,2] Kerala was the first state to detect and report the COVID-19 cases in the country in the month of January 2020 and has been the forerunner in implementing various control measures.^[3] The preventive measures implemented across the state

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considered all possible areas of spread of the disease and included surveillance of migrant labourers as a priority intervention. The state government has reinforced the significance of addressing them for the effective containment of the disease. Kerala has an estimated 2.5 million migrant population, which constitutes nearly 10% of its total population.^[4] The complete lockdown implemented by the Government of India though for the good brought turmoil in the lives of millions of migrant labourers. Isolated lifestyle away from local health system overcrowded residential camps and language barriers make them highly vulnerable to infection and less accessible to services.^[5,6]

Pathanamthitta district, of central Kerala, was one of the initial cities impacted by the COVID-19 outbreak in our country. The unique strategies for COVID-19 control and containment which was developed in the district emerged as a model to be mirrored in other areas during the course of this pandemic. This was a novel experience for the district in dealing with a public health emergency of international concern and many new strategies were devised to curtail the spread. In spite of extensive literature search we could not find any published literature describing the strategies used for COVID-19 control among migrants from a developing country setting like India.

Objective

To describe different strategies implemented for control and prevention of COVID-19 among migrant population in Pathanamthitta District, Kerala.

Methodology

This paper describes the strategies employed for control and prevention of COVID-19 among migrant population from March to June 2020 in Pathanamthitta district of Kerala, India. The quantitative data during the process like number of migrants screened, migrants with symptoms, medical and non-medical needs reported, number of calls registered in call centre and psychological support provided was collected and analysed.

Strategies for COVID-19 control

Strategies for COVID-19 control among migrant labourers were planned and implemented with intersectoral coordination and community participation.

Preparing a linelist

The first task of the district authorities was to prepare a new list of migrant population present in the district with the help of various Government machineries, such as Revenue Department, Labour Department and volunteers. Village wise list was prepared which was later consolidated at the Taluk level. There are six Taluks in the district. A total of 16,066 migrant population were present during the initial phase of this pandemic. This was an essential step to plan strategies and allocate resources.

Active symptomatic surveillance

One of the most challenging yet decisive step in the COVID-19 control was the migrant screening efforts which were undertaken by the district authority. Initially, the surveillance of migrants was done by the concerned primary health centre (PHC) staff under primary care physicians. Later, a District Surveillance Team was formed exclusively for migrants for their overall supervision. Under the guidance of District Surveillance Team, multiple field level teams were formed and each consisted of a medical volunteer, non-medical volunteer and a field staff.

Mobilisation of volunteers

Volunteers from the community were mobilised by invitation on social media such as on Facebook, Whatsapp and other platforms along with filed level recruitment by staff. Most of the volunteers were college students which included those pursuing professional courses like medicine or engineering. This volunteer base became the backbone for all the activities planned and implemented in the district.

Risk stratification of camps

A total of 1636 migrant camps were present in the district with inmates ranging from 5 to 130. Among that, 27 camps were identified as high risk camps. Migrant camps were categorised as high risk or low risk based on the risk for planning specific interventions. Any guest labourer in the camp who travelled to other districts/states within 28 days or who had any contact with a positive case/who had COVID-19 like symptoms were included in high-risk camp.

Contactless screening using technology

Contactless screening was performed using infrared (IR) thermometers. Technology-assisted vehicles for screening were also used in some camps based on the availability, for protection of front line workers.

Active symptomatic screening was divided into two phases.

Phase 1 (8th March 2020 – 7th April 2020): First phase of symptomatic migrant screening was concentrated in the camps which were in the high-risk category and the ones having more than 25 inmates. All the migrants at each location were screened with infra-red thermometers by field assistants. Detailed clinical and travel history was taken by the accompanying medical volunteer. Non-medical volunteer entered the data in Google sheets simultaneously. In first phase, 12,953 migrants were screened and 55 symptomatic migrants were identified (0.42%).

Phase 2 (8th April 2020 – 28th April 2020): In the second phase all camps were included. Total of 13,203 migrants were screened and 15 symptomatic were identified (0.11%).

Sample collection and testing

The details of symptomatic migrants which were identified

were communicated to the nearby primary health centres and block nodal medical officers. The nodal medical officers made arrangements for collecting nasal/pharyngeal swabs of the symptomatic migrants from the designated sample collection centres. In addition, random samples were also taken as per the testing strategy advised by the State Government. None of 201 samples collected tested positive.

IEC activities

Along with symptomatic surveillance, awareness classes about COVID-19 infection, preventive measures including importance of social distancing, personal protective equipment (PPE), etc., were conducted among the migrant population. The steps of hand washing were taught to them and they were encouraged to follow it. In addition, pamphlets containing information on preventive measures were also distributed among labourers.

Migrant call centre

The call centre was established for addressing the problems of migrant workers and for early identification of symptoms using the concept of passive surveillance by end of March 2020. The process flow for recruiting volunteers is depicted in Figure 1.

Training of volunteers: Training sessions were conducted for the recruited volunteers.

Initially, posters with contact numbers of the volunteers of the corresponding Taluks were distributed among the guest labourers. The working hours of the call centre were from 7 am–7 pm. The volunteers (inside and outside the district) were instructed to fill in the details of the guest labourers in a Google form when they attend to the calls. They were given the provision to work from home to improve the compliance.

The main needs identified were medical needs including psychological needs and non-medical needs including shelter, travel and food.

Interactive voice response system – Application of M health- A single number exclusively for guest labourers was added after starting the IVR system. The new : Interactive voice response system (IVR) number was given during screening in the camps. An additional six volunteers who could communicate in Bengali (as this was the mother tongue of most migrants in this district) was recruited after the initiation of IVR making it to a total of 36 volunteers.

Management of call centre: The group of 36 volunteers was divided into groups of two with 18 members each. Out of these 18 volunteers, 15 volunteers managed both Hindi and Tamil call centre helplines and three volunteers managed Bengali/Bangla call centre helpline. After the setting up of IVR on 10-4-2020 and after registration for interstate travel was started on 3-5-2020, there was a sharp rise in the number of calls received. A total of 955 calls were received in migrant call centre during the study period (730 calls in Hindi, 220 in Bengali and 5 in Tamil

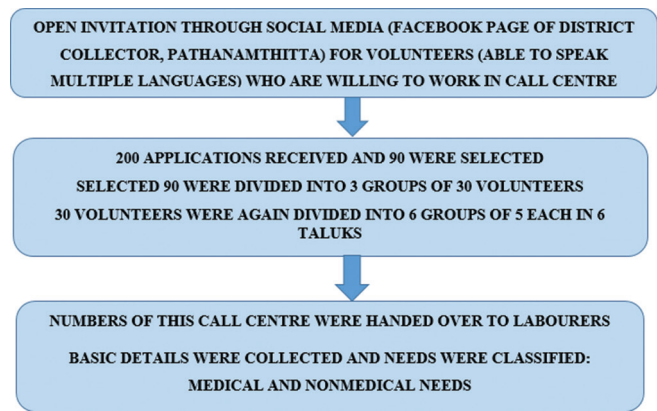


Figure 1: Process flow of recruiting volunteers for call centre

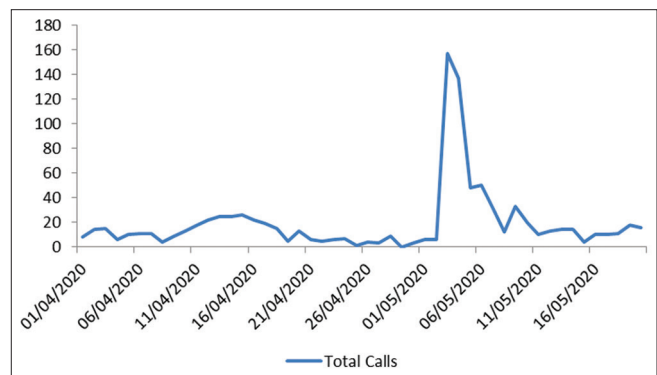


Figure 2: Distribution of calls received in migrant call centre

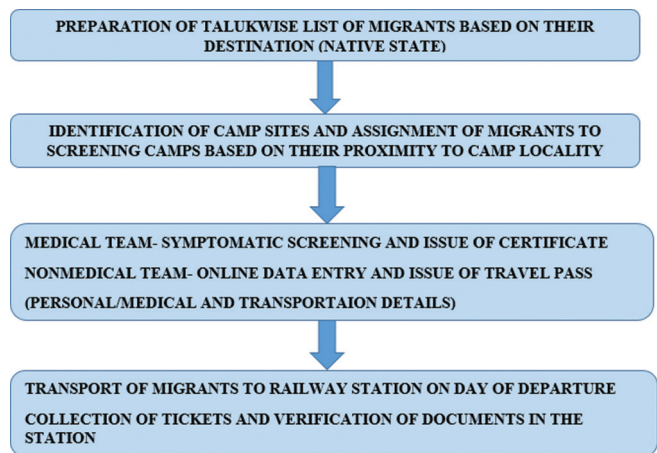


Figure 3: Process flow for arranging transportation of migrants

languages). Among the calls attended during the study period, 260 calls were related to nonmedical needs, 25 calls related to medical needs and the rest 670 calls related to concerns regarding COVID-19 and travel back to their native places. There were times when a single call was made on behalf of all members of that particular migrant camp which was equivalent to registering 20--25 concerns through a single call. The details of calls received at the call centre are shown in Figure 2.

Addressing medical needs

The assessment and the addressing of medical needs of the

migrants helped to ensure quarantine and control of COVID-19 to a great extent. The medical needs were assessed mainly through call centres, during screening and also as part of their hospital visits. Those with COVID-19 like symptoms with/without travel history were sent for swab collection and testing with the help of block nodal officers. The information was passed on to the concerned primary care physicians and the needed medicines were supplied. This supply was monitored at the District Level.

Psychological support

In addition to treating physical ailments, psychological support was also provided to the migrants. Counsellors were recruited to talk to migrants and provide support in collaboration with District Mental Health Programme. Special focus was given on high-risk camps. Information regarding migrants who may need psychological support was identified through field volunteers, staff from Labour Department and also from the calls received in the call centre. During the study period of 3 months, around 3000 migrants were contacted by the team and provided the needed psychological support over phone. Among these 48 people needed counselling services which was given over phone due to the current situation. Counsellors also gave their personal numbers to call back if they need any assistance. It was ensured that such migrants were followed-up regularly. Most of their problems were related to job insecurity and uncertainty about travelling back to their native places.

Addressing non-medical needs

The addressing of non-medical needs was more challenging compared to medical needs of migrants. Most of them did not have enough money to buy basic necessities like food. The revenue and civil supplies department was entrusted with meeting the food and essential commodity supply to the migrants. Using the initial line list prepared during the initial phase of the pandemic, village officers collected food grains, from civil supply depots and distributed it among the migrant camps and settlements through Public Distribution System. Every migrant worker was provided with 15 kg rice free of cost in three phases during the study period. In addition to rice, other items like cooking oil, vegetables were also procured from Kerala State Horticultural Products Development Corporation (Horticorp) and supplied to guest labourers. Labour Contractors and other volunteer organisations were also mobilised for meeting the needs of the guest labourers.

Migrant hostels

Migrant hostels were started in multiple locations in the district with free food facility. Hostels for migrants were started in six taluks. The main objectives for setting up migrant hostels.

1. Accommodation to the homeless/abandoned guest labourers
2. To shift guest labourers living in overcrowded places
3. To isolate the symptomatic guest labourers

District co-ordinator coordinated with the respective Tahsildar and Assistant Labour Officers to take actions to transfer guest

labourers to one of the eight migrant hostels setup by the District Administration at various Taluk Blocks. An AYUSH doctor (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy) was designated as in charge of the camp. Symptomatic surveillance along with swab collection and testing was done for all symptomatic migrants. In addition to COVID-19, other diseases were also managed at the hostels with referrals done for cases requiring higher care. The nodal medical officer maintains a register containing details of inmates and symptomatics. Various awareness classes regarding prevention and control of COVID-19 were also conducted in hostels. Almost 300 migrant labourers were shifted to hostels.

Transportation of stranded migrants

District administration as instructed by State Government decided to address the issues of stranded migrant labourers and arrange transportation facilities for these labourers to return to their native places. A special team was formed only for managing transportation of migrants. This team consisted of representatives from Departments of Labour, Revenue, Health, Law and order, Transport and Disaster Management. Social distancing was followed strictly during the entire process and it was ensured by Department of Law and order.

Prerequisites for travel:

1. Medical certificate issued by a medical officer authorised by DMO
2. Valid ID proof
3. Train ticket
4. Travel pass

Enlisting of stranded migrants: Village-wise list of migrant labourers who desired to go back to their native places were collected by field workers of Revenue and Labour Departments. A total of 10,425 migrant labourers were sent back to their native places by 26 trains during the study period. Details in Table 1.

Field level team formation and responsibilities: Screening team was given the responsibility of symptomatic screening, issue of medical certificate and travel passes. The transportation team

Table 1: State-wise distribution of migrant labourers

State	Total
West Bengal	7426
Bihar	1601
Odisha	159
Jharkhand	432
Chhattisgarh	47
Assam	449
Uttar Pradesh	225
Rajasthan	22
Madhya Pradesh	29
Uttarakhand	21
Others	14
Total	10,425

coordinated the transport of migrant labourers to respective railway stations. The station team coordinated activities in the railway station including collection of tickets, verification of certificate and boarding of labourers to respective coaches.

Medical screening and issue of certificate: Camp sites were identified in proximity to migrant settlements with maximum number of inmates for conducting medical screening. A nodal officer was selected and given the responsibility of every screening camp. The same camp site served as boarding points for the next day so that it was easy to coordinate the activities. The migrants were transported to the identified camp sites by staff of Labour Department and respective contractors. Each camp site had more than one team for screening and each team screened around 100–120 labourers per day. The teams were provided with the medical kit consisting of IR thermometer with battery, medical certificate (to be issued), travel ID, sanitizers, masks and gloves. Screening and issuing of certificates was done one day prior to the departure (upon receiving of train details one week prior). In addition to that a travel pass was issued to all migrants. All travel passes had a unique id number printed on them based on their taluk, serial numbers and the details of the bus to be boarded on next day.

Provision of food kits and preventive PPE kits: All migrant labourers were provided with PPEs like masks, sanitizers and gloves free of cost. Food kits were also distributed before boarding the train. The details of transportation process are summarized in Figure 3.

Discussion

This article describes various strategies implemented for control and prevention of COVID-19 among migrant labourers in Pathanamthitta district, Kerala. These strategies were successfully implemented in a developing country setting and are easily replicable in any similar setting across the world.^[7] Line listing and risk stratification, Mobilisation of community volunteers contactless active symptomatic surveillance using technology, IEC activities, sample collection and testing and distribution of personal protective equipment's were implemented in the initial phase of pandemic. Setting up of a call centre facility assisted with M health technology for addressing concerns of migrants exclusively was first and one of its kind in the country. In addition to that special measures were taken to improve adherence and wellbeing of migrants which included addressing medical needs (physical and psychological), ensuring food security, providing shelter, basic health care, isolation facilities and arranging transportation facilities.

In many locations across the globe migrant labourers are often most neglected population.^[2,8,9] Pathanamthitta district set a good example by taking special care to design and implement appropriate strategies for this population. The team, put careful efforts to incorporate four principles of Primary Health Care, i.e., equitable distribution, community participation, appropriate technology

and intersectoral coordination while planning and implementing different strategies.^[8,10,11] In order to contain the spread of infection in a population like migrant labourers was a tedious task which needed extraordinary efforts from all sectors setting a best example of intersectoral coordination. Even though it was primarily a health issue, involvement of all departments right from the planning to execution stage helped to cultivate a sense of ownership and improve the quality of service delivery. One of the biggest hurdle faced by the district authorities is to ensure adequate manpower for the implementation migrant activities in the field level. In a resource constraint setting like ours, it was difficult to implement strategies without a strong support from the community. One of the important strategy used was to build up a strong community volunteer base imbibing the principle of community participation in primary health care. The equitable distribution of resources along with application of appropriate simple technologies like using IR thermometers and technology assisted vehicle for contact less screening in this setting also helped to prevent and contain the infection to a large extent among migrants.^[11,12]

Establishing a call centre exclusively for addressing issues of migrants helped to meet the medical and nonmedical needs of this vulnerable population, passive symptomatic surveillance and increased adherence to quarantine. Integration with District mental health team helped to alleviate mental stress. According to a study done by among 3000 migrants in North Central India, 42% were struggling with no ration one third had no access to food, water and money, However, free ration helped to address issue of unemployment and food security of migrants here.^[2,13] When migrants from other areas started “barefoot” journey with their families to their native place, Pathanamthitta set an excellent example by successfully implementing it in the field. Primary care physicians played a crucial role in managing this health crisis among migrants by implementing and coordinating all these activities at field level. In addition to clinical competence, primary care physicians performs the role of an administrator, capacity builder, governance leader and deliver community oriented primary care. Therefore, this article helps to understand different strategies used and serve as a replicable model in other similar settings^[14] The success of these strategies was evident from the fact that not even a single migrant labourer was tested positive in the district.

Challenges faced- Some of the migrant labourers did not reveal proper medical/travel history or of the symptoms due to the fear of losing job/undergoing quarantine. Considering that the migrant population is a constantly moving cohort, capturing accurate data and follow-up has been a challenge from the beginning. Even though we were able to recruit volunteers who could speak multiple languages, providing psychological support in their language posed a big challenge.

Conclusion

Vulnerable population like migrant labourers are often left out of epidemic preparedness planning and reaching out these marginalised population has been a major challenge for district

authorities. However, implementation of technology-assisted strategies tailored to the needs helped to curtail the spread of infection to a large extent. The success of these highly effective and replicable strategies underlines the need to incorporate principles of primary health care for the successful management of crisis situations like this.

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Conflicts of interest

There are no conflicts of interest.

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