HEALTH CARE AND MARGINALIZED
HOW FAR KERALA'S PUBLIC HEALTH POLICIES ARE INCLUSIVE?

Nancy Liza Thomas[1] and Rajesh Komath[2]

Abstract

The paper intends to argue that public health policies should not be a homogeneous one though it is a 'public'. Socio-economic vulnerabilities of specific groups shall be addressed separately as the lived experiences of disadvantaged groups are complex and historically embedded. Analyzing public health policies of 1939, 1955, the draft bill released in 2009, and an ordinance in 2021, it put in place the experience of Adivasis in Attapadi. There are many such groups whose issues are not been addressed in public policies including persons with disabilities, and transgender groups. To locate the insensitivity and mismatch of the public policies and the life-world experience of specific social groups, the paper problematizes the health aspects of the Adivasis to make sense of 'the public' in public policies. The public is often defined and imagined as the middle classes/castes and therefore, policies are formulated for this section of the people. The paper is divided into three parts. First part forms an interpretive gaze of the public health policies in various time periods. The second part is time-space aspects of the policies that addressed various public health issues in Kerala. The third part is to put in place the experience of Adivasis in Attapadi to locate the question of how far public policies touch the life-world of the vulnerable groups. Subsequently, 'the public' in public policies are interrogated.

Keywords: health care, public health policies, government interventions, vulnerable groups

Introduction

The high human development indices of Kerala are well documented. The health care indices of Kerala are even comparable to the indices of the advanced countries. Kerala is known for its effective policies in education and health sectors. This paper focuses on the health policies of Kerala over a period of time and how it addresses specific health issues

[1] Dr.Nancy Liza Thomas, ICDS Supervisor, Women and Child Development Department Mobile No: 9809678911, Email: nancymadhu1053@gmail.com
[2] Dr. Rajesh Komath, Associate Professor, School of Social Sciences, Mahatma Gandhi University Kottayam komathrajesh@gmail.com

of the time. The public health policy in Kerala are regulated by two out-dated Acts-the Travancore Cochin Public Health Act, 1955 for south and central Kerala and even much older one-the Madras Public Health Act, 1939 which stretches out all over the Malabar District and the Kasaragod taluk. These two Acts are in force in the state of Kerala regarding the public health till date. Efforts were made to combine these two acts and form a unified Act for the entire state, but have not succeeded for various reasons. A draft public health bill was released in 2009 for unifying and amending the existing laws. Yet, nothing was fruitfully come out of it.

It seems strange that even on the onset of Covid 19 Pandemic, the Government of Kerala declared Covid-19 disease to be a notified disease as per section 60(n) of the Travancore Cochin Public Health Act, 1955[i]. It was at this point of emergency it has been realized the necessity of a law for coordinated interventions and effective tackling of notified diseases. Thus Government have decided to implement a law with statutory powers for the health department throughout the State by unifying the provisions in the Madras Public Health Act, 1939 (Act III of 1939) and the Travancore-Cochin Public Health Act, 1955 (Act XVI of 1955) as the Kerala Public Health Act.

As the Legislative Assembly of the State of Kerala was not in session and as the said proposal had to be given with immediate effect, the Kerala Public Health Ordinance, 2021 (44 of 2021) was promulgated by the Governor of Kerala on the 23rd day of February, 2021 and the same was published in the Kerala Gazette Extraordinary No.948 dated 24th February, 2021. A Bill to replace the said Ordinance by an Act of the State Legislature could not be introduced in and passed by the Kerala Legislative Assembly during its session which commenced on the 22nd day of July, 2021 and ended on the 13th day of August, 2021. In order to keep alive the provisions of the said Ordinance, the Kerala Public Health Ordinance, 2021 (116 of 2021) was promulgated by the Governor of Kerala on the 23rd day of August, 2021 and the same was published in the Kerala Gazette Extraordinary No.2514 dated 26th August, 2021[ii].

Clause 83 in the bill seeks to provide for the ceasing of operation of the Madras Public Health Act, 1939 (Madras Act III of 1939) which is in force in the Malabar istrict mentioned in sub-section (2) of section 5 of the State Reorganization Act, 1956 (Act No.37 of 1956) and for the repealing of the Travancore-Cochin Public Health Act, 1955 (XVI of 1955) and the Kerala Public Health Ordinance, 2021 (116 of 2021)[iii].

This paper aims to do a textual analysis and reading of the two older acts and the new bill to locate time-space dimensions of public policies. It argues that in spite of imagining health policies for the people of Kerala, it is necessary to understand specific life-context of various social groups especially of the communities like Adivasis. Focusing on the Adivasis of Attapady as a case, the paper tries to engage the specific problems of Adivasis as a response of the implementation of public health policies.

Public health policies should address not only emerging health challenges but also the changing nature of biosphere and ecology as well. The state needs a policy that covers the particularities of underprivileged groups. The policies should not remain static; it should address the patient groups among which social vulnerabilities also to be addressed.

Reading the 1939 Act and 1955 Act

A public health act was introduced for the first time in the native states of Travancore-Cochin in 1955. However, Travancore had paid attention to the health of its people as early as from 1811 onwards. It is the effective policies of the state of Kerala in the education and health sector that has led to the achievement of high human development index. Kerala became highly educated and possess a better healthcare system before attaining a higher per capita income, which has a history. The rulers of native Travancore became conscious of the need for the public health and this tradition has helped a lot in the advancement in the health sector in Kerala. Studies reveal that the princely kingdoms had better availability of hospitals and beds than British India (Sadanandan 2001, p. 3072).

During the reign of Gowri Lekshmi Bai, a pioneer in the field of Public Health system introduced western style of medical services in Travancore in 1811. Vaccination against smallpox was introduced first in 1811. In 1879 small pox vaccination was made compulsory for students, inmates of jails, and public servants through a Royal proclamation in the larger interest of the public. Subsequently, missionaries working among the people of the region also shed light on the issue of the public health as care work. Dr Archibald Ramsay- the first medical missionary sent to Travancore established a hospital for modern allopathic system of practice at Neyoor in 1838. Travancore government opened its first charity hospital with provision for admission of patients at Thycaud in Trivandrum in 1839. During the period when the local transport system was meagre, it was the plan of the Travancore to build a large number of small hospitals that has led to bring the modern medical facilities to the rural population (Sadanandan 2001, p.3072). Community health care centres were established and family planning program was introduced in the state. These developments in the field of health care systems had made a revolutionary change in the history of health services in Kerala.

It was during the reign of Sethu Lakshmi Bai (1924-31) Public Health Department was established in Travancore - a land mark in the history of medical and health care system of Kerala. Travancore as a princely state gave attention to modern medicine, public health and hygiene and sanitation. The colonial government of Malabar set up institutions only to cater the British and their employees. British India made available the facilities to the natives by making it contingent upon the local population in constructing and maintaining the infrastructure. This was a main reason for the establishment of very few institutions in Malabar. The erstwhile Malabar district of British India (now split into

Kasargod, Kannur, Wayanad, Kozhikode, Malappuram), Palakkad and Idukki districts, lagged behind other districts of the state in the availability of medical facilities (Sadanandan 2001, p.3075).

While reading the 1955 Act, it is seen that the controlling authorities and powers are loosely defined. The government appoints the Director of Public Health; also the government may time to time define the powers and duties to be performed by the Director or any members of his staff for any of the purpose of the act. When it comes to bill of 2021, powers and duties of various officials during the emergency situations are clearly stipulated and defined.

Prevention and sanitation were a major concern in 1955 Act. Public health authorities at that time took measures to prevent the spread of infectious diseases such as cholera, small-pox and worm infestations. It was identified that infectious diseases were highly communicable during fairs and festivals, hence the need of sanitary measures at the vulnerable sites were identified and introduced by the health authorities. Thus creating public consciousness about the need for the sanitation and safe drinking water was a major concern of the public health authorities. Mosquito control measures were given importance, treatment measures of mosquito breeding places were brought under the purview of the 1955 Act.

Preventive measures were introduced by public health authorities to achieve public health objectives. They laid down different prevention measures to be taken for safeguarding or improving the public health. Leprosy was a major issue during 1955, part IV of the Act deals with leprosy and measures to be taken to prevent the spread of leprosy. At that time, 12 diseases were considered as notified diseases namely anthrax, chickenpox, cholera, diphtheria, malaria, measles, mumps, plague, rabies, smallpox, TB and whooping cough. When the draft of the health bill was made in 2009, it has been termed as the notified infectious diseases and it includes 32 diseases and when it comes to 2021, there was a differentiation between communicable diseases and notifiable communicable diseases and the number of diseases has increased to 37. Zika, Nipah and Covid-19 are declared as notifiable communicable diseases in addition to 12 other diseases. The public health authorities shall intervene whenever an incident or outbreak of any notifiable communicable diseases is noticed in order to control the spread of such disease and to eliminate it. The provision of isolation or quarantine of infected persons was taken as measure to prevent the spread of such infectious diseases. With Covid-19, the term quarantine has become a common word even among the laymen.

During 1955, there was only notification regarding fairs and festivals and the preventive measures to be taken during period of communicable disease. However when the Panchayat Raj Act came into force in 1994, provisions are made for making sanitary and other arrangements compulsory at the place of fair or festivals, public and

community gatherings. Local self-government bodies are also made responsible in making arrangements to safeguard public health. Public health authorities shall take measures as per the provisions in the Kerala Municipality Act, 1994 and Kerala Panchayat Raj Act, 1994. With decentralisation and implementation of people planning since 1995, the government health care facilities improved at large. In 1996, Kerala government implemented the People's Campaign for decentralized planning movement. The campaign aimed at effective and equitable coverage regarding care and access irrespective of income, caste, tribe or gender. When the Panchayat Raj Act came into effect, the PHCs and their sub-centres were brought under the jurisdiction of local bodies in order to encourage use of PHCs and sub-centres as the first point of care. It also aims at the effective implementation of various projects regarding the infrastructure as well as medical facilities, to engage more closely with the community, and to respond to local health needs as well. Decentralization began to address community priorities. It resulted in the joint effort of the executives, representatives and community members working together and significant renovations are introduced in the health care facilities at grass root level. As a result, individuals, especially in lower socioeconomic groups, were encouraged to utilize public health centres. Particularly in villages with strong panchayath governance, there have been improvements in access to medications and health outcomes, as well as increased patient utilization of care at PHCs (report of PHCPI, 2018). Public health facilities and infrastructure improved to a large extent with decentralisation. Key public services institutions such as hospitals, schools, *anganwadis, krishi bhavan*, veterinary institutions, and care institutions for differently-abled and elderly have been taken over by the local self-governments. Infrastructure development of all the above said institutions comes under the domain of responsibility of local bodies. Thus with decentralisation, enhanced awareness and people's participation are ensured, and have brought out many improvements in service sector. From this it can be inferred that the public health acts had not alone made improvements in the health sector, the Panchayath Raj Act also plays a major role in the developments in the health sector. The public health authorities are endorsed to implement health care projects for the aged and differently abled. Earlier there were programmes only for maternal and child welfare. From this it is understood that only these groups of people are addressed in general in the public policies.

Likewise, recently the Covid-19 health emergency was tackled under the Disaster Management Act, 2005. The sudden outbreak of the pandemic has enforced the government to address it legally. In this context, central government gave direction to all states, to pay attention to the Epidemic Disease Act (Gowd KK, Veerababu D, Reddy VR, 2021). However the EDA in the present form is not sufficient to face health emergencies like Covid-19 as it is silent on technical and operational mechanisms of the control and management of epidemics (Gowd et.al 2021). Therefore it was under the purview of Disaster Management Act, 2005, all the care works has carried out for the

effective management of the pandemic. The relative success in the effective control of Covid-19 pandemic in Kerala became viable through the effective governance in consensus with public action, supplemented and supported by the people. It can also be attributed to the proficiency of the state and its machineries in executing it in responsive way in compliance with the community. Mass campaigns have been launched for the prevention and control of Covid-19. The Government of Kerala introduced a mass hand washing campaign called 'Break the Chain' on March 15, 2020 to make people aware about the importance of public and personal hygiene across the state. The government has urged the public to disseminate break-the-chain campaign as a preventive measure to check the spread of the novel corona virus. The slogan SMS–Soap, Mask and Social Distancing is given massive publicity. The Government of Kerala employed multiple platforms such as print, digital and social media–to systematically circulate its Covid-19 preventive measures. The 'community kitchen' initiative was also launched as a relief measure to ensure no one remains hungry due to pandemic lockdown. It took various measures for the people to successfully manage the social, economic and psychological effects of lockdown. Innovative measures were introduced to tackle the new state of affairs faced by the state and the society. New projects and campaign measures were designed and assigned to different departments for its successful implementation. All the mechanisms and resources of the state are utilized by the Government to transcend the changed circumstances. Spontaneous and frequent online trainings and meetings were convened and conducted to train the government personnel to take over and handle the new situation of Covid-19 pandemic as a mission and help the people to get out of the pandemic situation to their normal life. Kerala dealt with the crisis by providing adequate provisions for all class of people adversely affected by the lockdown and in protecting its citizens and their well-being by providing them timely security pensions as well. This is how a health emergency is tackled without an up to date public health Act.

Lack of Access to Public Health Services and the Vulnerable Groups

Across the world indigenous communities often have less access to health services. In order to remove the on-going gaps in achieving health for all, the World Health Organisation proposed Universal Health Coverage as a key policy for enabling equitable access to healthcare. Despite this nearly half of the world's population still struggles to access basic healthcare services, with indigenous communities over-represented in this group (George et al 2020, p.2). Although the delivery of health care has extensive advancement across the globe, social discrimination remains as a significant determinant in discriminatory access to health care services and health outcomes experienced by the poor. Rural urban disparities in access to health services are also clearly visible. Studies conducted in different villages in India during 1950s and 1960s suggest that it was ignorance and poverty more than social status which hindered the utilization of care services (Acharya 2010, p.1). Even though various measures were

taken to ameliorate rural-urban disparities and to redress regional inequity, it has not reached its expected goal. It has been historically perceived that community health services as unresponsive and limited in capacity to serve the community (D'Anna et al. 2018, p.11). Rural poor are prevented from accessing hospital services for many reasons such as finance, road infrastructure and poor hospital facilities in rural areas etc. The health disparities that exist in the healthcare system are mainly due to the persistent social discrimination in the society. There are studies that give clear evidence of social discrimination and experience of poor access to health care around the world (D'Anna et al.2018). Poverty and health are closely linked. Poverty is directly linked to access to health care services. The level of utilization of health care services by poor and low income groups is much lower than high income group of people. Socially disadvantaged groups of people were always confronted with much discrimination and in many times it had direct impact upon their health and well-being. Around the world, policy makers and scientific researches turned their attention towards the health status of disadvantaged and minority populations. It has become a topic of scientific relevance for many countries (Rivenbark and Ichou 2020).

Researchers, social workers and legislatures aims to improve the health of disadvantaged/socially vulnerable groups. Some barriers to healthcare for disadvantaged populations lie in the experiences of healthcare itself, and those experiences are the potential places of action from which policy and research should begin (Rivenbark and Ichou, 2020, p.8). Various research studies show that the different levels of discrimination on health care need to be identified so that interventions can be made possible to ensure equitable access to health care for all individuals (Shavers et al., 2012) (D'Anna et al.2018).

When it comes to the case of Kerala, the high human development index of Kerala are comparable to the indices of the advanced countries. It is evidenced from various studies that there is disparity in the socio-economic status and health-care delivery in various regions of the state, such as rural–urban and north–south regional disparities. Differences are observed even within certain rural or urban communities based on the financial status (Muraleedharan 2022, p.250). The study found that the living standards and inequalities were higher in urban areas compared to the rural places. Most often lower financial class people seemed to utilize medical facilities at a lower rate. When we consider the living status and health-care consumption it is the southern part of the state which is better off in many areas of development compared to other parts of the state. However, another interesting observation was that as discussed in the earlier section, the disparity between the north and south regions of the state, which was more evident in the past, is gradually narrowing down. Kerala's welfare policy and greater growth of infrastructure facilities associated with decentralisation have a great role in the reduction of these regional disparities to a large extent.

Though the 'peoples planning' has strengthened the capacity of local bodies to manage scarce resources, and facilitated to dialogue with the local people, the effect of decentralization policy on improvements in health has yet to be carefully evaluated. In Kerala, people preferred to utilize the private sector because the care provided at the public sector did not satisfy them. They cited such reasons as shortage of medicine, less-availability of technology, and the curt attitudes of doctors, even though services are provided for free or at a minimum charge (Nabae 2003, p. 143). According to Nabae, current economic situation and a wave of globalization has affected Kerala, and have forced the state to confront new challenges. Kerala had to struggle hard to sustain the achievements and to maintain the ideal 'Kerala model'. Kerala must have to take a face lift approach in the health care system in such a way that the public and private sectors effectively cooperate and complement each other to meet the needs of the people.

Despite these success stories of Kerala, several studies reveal the marginalisation of the indigenous communities in the access to health care facilities. The tribal communities are the ones that are not benefitted from the development achievements of Kerala's planning program. In all the integral parts of life of indigenous communities are below the state average (John 2013). The indigenous communities in Attapadi continue to experience poor access to health care in spite of both financial protection and adequate coverage of health services. All the same, they resisted attempts by the health system to improve their access and coverage of health care facilities. It is because of the failure to provide culturally respectful care, the discrimination of the community at healthcare facilities, the centralisation of the delivery of services as well as the lack of power on the part of the indigenous community to negotiate with the health system for services (George et al 2020).

Attapadi is not a name, an image of Vulnerability

In Attapadi, there are four hospitals under the control of health department. In addition to these, there are three mobile medical units and twenty eight sub centres (Ekbal 2013, p.117-121). Despite of all these facilities, objectives could not be achieved. The activities and services of these institutions and field level health workers were not efficient in providing, may be because of lack of basic infrastructure facilities. In Attapadi, miscarriages are frequent among women. Infant mortality rate is very high, mainly because of low birth weight babies. Malnourishment and anaemia are common among adolescent girls, pregnant women and lactating mothers. One of the main reasons for miscarriage is anaemia. Timely anti natal check-up is not often provided. Even when pregnant women in the rural areas of Kerala undergo four to five antenatal check-ups and ultrasound scans, tribal women are neglected in providing prenatal care. This problem need to be addressed and is possible by engaging those from within the community to be trained to communicate the importance of antenatal check-ups for a healthy mother and child. Trained personnel from outside community may not be able to provide the timely

services at remote areas due to many reasons such as inability to reach in time due to poor basic infrastructure facilities. The government mechanisms must be utilised to train selected indigenous people from their community. Then only it becomes successful and can attain expected outcomes. The state and policies should address the specific tribal culture and their world view about the health and conducive policies can only inclusive to the state paradigm of social development. The Adivasis indigenous health care system in the past had eroded due to the coming of developmental modernity and preservation of forest which had alienated them to move away from the natural habitat of forest. Forest is mother for the Adivasis as it has provided all care to protect the life and health of the people. The natural availability of plants and resources had sustained their health but erosion of these deteriorated their heal status too. These indigenous past shall be a matter of serious concern while formulating policies of health and care in respect to the Adivasis. The vulnerability of the Adivasis from Attapadi is a classic case in point. The changing food habits of the Adivasis due to the socialisation with the plainsman or mainstreams, had also affected the health of these groups.

The staple food crops of Adivasis were ragi, *chama*, corn and pulses. These traditional food crops provided them with a balanced diet which includes iron and protein in correct quantity. Mostly these food items were cultivated by themselves applying traditional forms of cultivating practices inherited from their ancestors. But the colonial attitude of the state in the name of development and modern view of the state towards forest deprived them from their land and culture. Deforestation and land encroachment made the tribal people vulnerable and landless. The loss of cultivable land had led to the loss of nutrient rich staple food crops which in turn led to the rise of hunger and poverty, subsequently the health of the Adivasis. The processes of coloniality of development, modernity and the neo-liberal state led Adivasis into a precarious life. The cultural backdrop of the Adivasis life should be taken into consideration while formulating policies. Wetland and forest conservation deserves prime importance in order to regain their normal healthy well-being. The beliefs of indigenous communities are rooted in unique cultural values, obligations and ancient traditions; same is the case regarding their health. Therefore, provisions of culturally safe care which respects and reflects these values are important in order to facilitate better healthcare access. Then only it will ultimately lead to improved health outcomes for indigenous communities (George et al 2020, p.10).

Though the public health policies include measures for the welfare of mother and child, it has not been effective for the tribal women and children. So the public policies should address the health issues of tribal women and children in a different manner. Malnourishment among children and women, anaemia and lack of health care facilities are the main reasons for the maternal ill health and consequent maternal deaths and also high rate of infant mortality. These root causes need to be eradicated which should be a

major concern of the policy makers. Ragi, *chama* (little millet), corn and pulses should be distributed through public distribution system. Mobile civil supplies shop should be opened to supply the traditional staple food at their settlements. A comprehensive health and nutrition survey should be conducted among the Adivasis to understand their health status.

During the pandemic, when the state focussed on the handling of the emergency situation, all public mechanisms turned its concentration to the public health concerns as the mainstream society is affected. It has been perceived that Covid-19 affected people indiscriminately, but in actual the Covid-19 worsened the vulnerabilities and new challenges emerged for the marginalised groups. The Covid-19 lockdown and social distancing affected the lives of tribes in myriad ways. It led to loss of attention, care and support of the state for already marginalised tribal communities as the state has to focus on the state health emergency. The tribal community has to face a multitude of hardships in different forms in the wake of Covid-19 and the lockdown that followed.

In lieu of conclusion

This paper unravelled on the health policies of Kerala over a period of time and narrated the nature of the health issues during the time before the formation of Kerala and after. Policies suggest that it has addressed issues of the 'public' as health policies and such 'public' constitute people or groups closely associated with state-led development policies. The policies are often addressing the life world issues of the mainstreaming society. The emergence of middle classes or the dominant class/castes in Kerala, thus become central concerns of the state policies. The policies, laws and acts by the state are thus catering the welfare of these middle classes and castes. The paper thus argued that the 'public' policies are not truly 'public' rather it is 'public' disguised for the middle classes in Kerala. It is in this context that the paper tried to make sense of the life of the Adivasis to delineate the process of exclusion of certain culturally specific groups from public health policies. It further argues that the public health policy shall address specific social groups in their cultural context to form more inclusive health policies that concerns specific health issues of traditional social groups like Adivasis. The public policies could be a 'public' in the real sense of the term only when it touches cultural and ecological sensitivity of the groups who were marginalised by the process of development, modernity and state led neo-liberal policies.

References

Draft Public Health Act 2009, Government of Kerala

Kerala Gazette, Extra Ordinary Gazette No.948, February 24, 2021

Kerala Gazette, Extra Ordinary Gazette No.887, March 14, 2020

The Travancore-Cochin Public Health Act, 1955 (Act XVI of 1955)

The Kerala Public Health Bill, 2021, Bill No. 77, Fifteenth Kerala Legislative Assembly

Report of PHCPI, Kerala, India: Decentralized governance and community engagement strengthen primary care, Primary Health Care Performance Initiative, 2018

Covid-19 and Tribal Communities: How State Neglect Increased Marginalisation during the Pandemic, Economic and Political Weekly, ISSN (Online) - 2349-8846

D'Anna et.al, Social discrimination and healthcare: A multidimensional framework of experiences among a low-income multi-ethnic sample, Soc Work Public Health. 2018; 33(3): 187–201.

Ekbal, B (ed), Attapadiyil Sambhavikunathu, Chintha Publications, 2013

George, M.S., Davey, R., Mohanty, I. *et al.* "Everything is provided free, but they are still hesitant to access healthcare services": why does the indigenous community in Attapadi, Kerala continue to experience poor access to healthcare? International Journal for Equity in Health 19**,** 105 (2020). https://doi.org/10.1186/s12939-020-01216-1

Gowd KK, Veerababu D, Reddy VR. COVID-19 and the legislative response in India: The need for a comprehensive health care law. J Public Affairs. 2021; e2669.

John O J, *Attapadiyile Aadivasikalude Duravastha Oru Nerkazcha*, in Attapadiyil Sambhavikunathu, Chintha Publications, 2013

Muraleedharan Manesh and Alaka Omprakash Chandak, Emerging challenges in the health systems of Kerala, India: qualitative analysis of literature reviews, Journal of Health Research Vol. 36 No. 2, 2022 pp. 242-254 Emerald Publishing Limited e-ISSN: 2586-940X p-ISSN: 0857-4421 DOI 10.1108/JHR-04-2020-0091

Nabae Koji , The Health Care System in Kerala- Its Past Accomplishments and New Challenges, J. Natl. Inst. Public Health, 52 (2) : 2003

Nancy Liza Thomas and Rajesh Komath, Government Interventions for the Elderly and care Work During Covid-19 Pandemic in Kerala in Pandemic- Coping and Resilience: Reflections of the Elderly, Sandhya R S (ed), INSC Publishing House, 2021

Ramankutty V, Historical Analysis of the development of health care facilities in kerala State, India, Health Policy and Planning, Oxford University press, 15(1):103-109

Rivenbark and Ichou, BMC Public Health, (2020) 20:31 https://doi.org/10.1186/s12889-019-8124-z

Sadanandan, Rajeev, Government Health Services in Kerala: Who Benefits?, Economic and Political Weekly, Aug. 11-17, 2001, Vol. 36, No. 32 (Aug. 11-17, 2001), pp. 3071-3077,

Sanghamitra S Acharya, Access to Health care and pattens of Discrimination: A study of Dalit Children in Selected Villages of Gujarat and Rajasthan, Working paper series, Indian Institute of
Dalit Studies and UNICEF, 2010

Suraj Jacob (2014) The Kerala Regime and Regional Disparities in Health Infrastructure Versus Outcomes, India Review,13:1,58-77, DOI: 10.1080/14736489.2014.873680