

Growth of Primary Health Care System in Kerala-A comparison with India

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Abstract: Though different countries have different health care systems, primary health care is the first level of health services to the community that plays an important role in global health care scenario. Primary health care system is imperative for the wellbeing of the people and development in any country. Among the states in India, Kerala made significant achievements in the field of primary health care services and the health model of Kerala also got worldwide acclaim and acceptance. Therefore, this chapter makes an attempt to depict the progress of primary health care system in Kerala over the years. A comparison of the Primary health care system of India and Kerala is attempted on the basis of the growth of health centres, average rural population served by these centres, number of doctors, health assistants and health workers; and the primary health care services being rendered to the people.

Keywords: Primary health care system, Community Health Centres (CHC), Primary Health Centres (PHC), Sub Centres (SC)

1. INTRODUCTION

Primary health care is defined as “essential care based on practically and scientifically sound, socially acceptable methods and technologically made universally accessible to individuals and families in the community by means acceptable through full participation at a cost that the community and the country can afford to maintain at every stage of their development in a spirit of self-reliance and self-determination” (WHO, 1978) It forms an integral part of the country’s health system. Primary health care through Primary health care system has been recognized as the effective strategy for improved health services across the world. The Primary health care system consists of the Community Health Centres, Primary Health Centres and Sub Centres. Kerala, the State of India has achieved a unique position in achieving better health indicators because of better Primary health care system. Therefore the need to assess the progress of Primary health care system of the State is a need.

Data and Sources of Data:

National Health Profile data from Health Information of India and Rural Health Statistics data from the Ministry of Health and Family Welfare (MOHFW), Government of India (GOI) were used for assessing the growth of health centres, its manpower resources and percentage of funds used for the health system. National Family Health Survey (NFHS) and District Level Household and Facility Survey (DLHS) data were also used to compare the primary health care services of India and Kerala.

Historical perspective of Primary health care system in Kerala:

Kerala has a long history of an organized health care system even before the arrival of European medicine. Even before the formation of the State, accessible medical care system was already laid in Travancore and Cochin principalities. The efforts of princely rulers and Christian missionaries, historical background and the progressive public policies implemented by the government at different intervals of time played an important role in providing the health facilities. During the period from the State formation to the early part of the 1980s, a great deal of expansion and growth has taken

place in the health care system in Kerala. The proposal for having a medical care system accessible to all its subjects was laid down on 1st November 1956.

During the first five year plan, there were 40 primary and secondary health centres, two malaria control units and 138 maternal and child welfare units in Kerala. The second plan focused on the improvements of public health institutions to control communicable diseases. During the third plan, 92 Primary Health Centres, 39 new dispensaries and 80 maternal and child health centres were started. In the fifth plan, a phased programme was organized in all schools for prevention of communicable diseases covering all primary school children in the state. Increased purchasing power among poorer sections along with high demand for modern health services, by the mid-1980, made a shift towards private health care institutions. Recognizing the eroding trust in the public system, Kerala launched a major overhaul by introducing People's Campaign for Decentralized Planning movement in 1996. Through decentralized administration in 1990 and decentralized planning in 1996, power of decision making in the area of social welfare was transferred to the people at the level of the Gramapanchayat. Since 1996, management of Primary Health Centres is entrusted with the Gramapanchayats which are empowered to allocate funds for the development of the Primary Health Centres. The launching of National Rural Health Mission in April 2005 also paved the way for overall changes with the aim to improve the health status through the health centres. This mission provides universal access for an equitable, affordable and quality health care service to all. In the 12th plan, a new Programme for Pain and Palliative care was introduced. It is proposed that, by the end of 12th plan, all health institutions up to the level of the Community Health Centres are to be equipped with palliative care services. The study now move on to compare the Primary health care system of India and Kerala.

2. GROWTH OF THE PRIMARY HEALTH CARE SYSTEM –AN ANALYSIS OF INDIA AND KERALA

Primary health care system has attained the present position through the contributions of a number of factors. The growth in the number of health centres, manpower resources which include the number of doctors, health assistants and health workers and achievements in the services such as maternal and child health, immunization and family planning and fall in average number of rural population covered by health centres over the years have contributed to the improvement of Primary health care system in the state. It is useful to have a comparison between the Primary health care system of Kerala and that at the national level for a better appreciation of the context in which the study is placed.

Institutional Structure of Primary Health Care:

Infrastructure is an indicator of facilities available for any institution. It is not an exception in the case of Primary health care system also. It is described as the basic support in delivering health care services to its people. It was referred elsewhere that the primary health care services are provided through a three tier Primary health care system -Community Health Centres, Primary Health Centres and Sub Centres.

Community Health Centre serves as a referral centre for 4 Primary Health Centres which provide facilities for obstetric care and specialist consultations. Apart from this, there are TB centres, family planning clinic and maternal and child health clinics in those rural villages. Primary Health Centres is the first contact point between the rural community and the doctors who are called Medical Officer (MO). The Primary Health Centres are envisaged to provide integrated curative, preventive and promotive health care services to the rural population giving more emphasis on preventive and promotive aspects of health care. The Primary Health Centres and their Sub Centres are supposed to meet the health care needs of the community. Sub centre is the most peripheral institution and first point of contact between the community and health care delivery system. A sub centre provides interface with the community at the grass-root level, providing the primary health care services.

Growth of the Health Centres:

The Community Health Centres, Primary Health Centres and Sub Centres had achieved rapid growth in terms of number during the last 35 years. This is given in the table 1

Table 1: Number of the Health Centres -India and Kerala (6th plan-12th Plan)

Five Year Plans	Number of Community Health Centres		Number of Primary Health Centres		Number of Sub Centres	
	India	Kerala	India	Kerala	India	Kerala
6 th five year plan 80-85	761	4	9115	199	84376	2270
7 th five year plan 85-90	1910 (150.98)	54 (125.0)	18671 (104.84)	908 (356.28)	130165 (54.27)	5094 124.41
8 th five year plan 92-97	2633 (37.85)	80 (48.15)	22149 (18.63)	938 (3.30)	136258 (4.68)	5094 (0)
9 th five year plan 97-2002	3054 (15.99)	105 (31.25)	22875 (3.28)	944 (0.64)	137311 (0.77)	5094 (0)
10 th five year plan 02-07	4045 (32.44)	107 (1.90)	22370 (-2.21)	909 (-3.70)	145272 (5.79)	5094 (0)
11 th five year plan 07-12	4833 (19.48)	217 (102.80)	24049 (7.51)	809 (-11.0)	148366 (2.13)	4575 (-10.19)
12 th five year plan 12-17	5396 (11.65)	222 (2.30)	25308 (5.24)	852 (5.32)	1523655 (926.96)	4575 (0)

Source: Rural Health Statistics , 2015

Note: Figures in bracket show growth rate of five year plan

Table 1 shows the growth of health centres during the planning period. At the end of the sixth Plan (1981-85), there were 84,376 and 2207 Sub Centres in India and Kerala respectively. By the twelfth Plan, the number has increased to 1, 53,655 in India and 4575 in Kerala. Similar progress is found in the number of PHCs also. At the end of sixth Plan (1981-85) there were only 9115 PHCs in India and 199 PHCs in Kerala. By the end of twelfth Plan, it increased to 25,308 in India and to 852 in Kerala. The number of Community Health Centres has also increased from 761 at the end of the sixth plan (1981-85) to 5,396 by 12th plan in India; and from just four at the end of the sixth plan to 222 by the 12th Plan in Kerala. Due to standardization of health institutions in 2009 (in Eleventh plan), the number of Sub Centres and PHCs in Kerala declined, as a few PHCs were upgraded to Community Health Centres. The growth of all the health centres over the planning period from sixth to twelfth plan is shown in figure 1

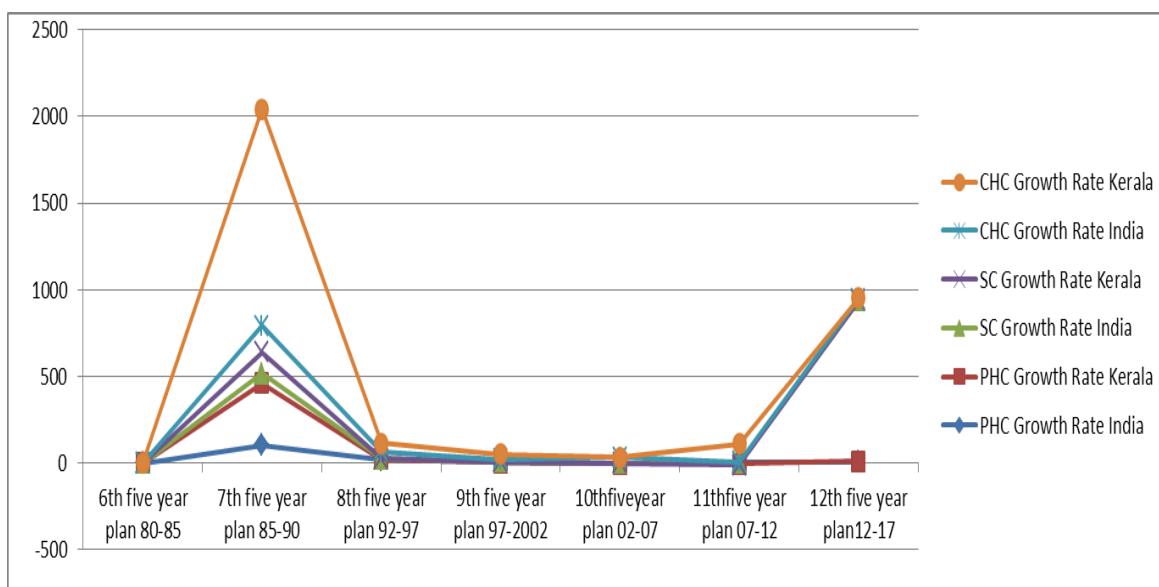


Figure 1: Growth of Health Centres (6th plan –12th Plan)

Source: Computed from Table 1

The figure 1 depicts that the growth of Community Health Centres, Primary Health Centres, and Sub Centres are highest during the seventh plan. As health care programmes restructured and reoriented under the National Health Policies gave priority to extension and expansion of the rural health infrastructure through a network of Community Health Centres, Primary Health Centres and Sub Centres on a liberalized population norm, there was an increase in the number of health centres during the seventh plan. From seventh plan onwards, the growth rate of these centres decline in most of the plans.

Average Rural Population covered by the Health Centres:

For the effective functioning of the health centres and for provisioning of better services to the community, norms for the population to be covered by each centre were suggested by the government. As per IPHS norms, the Community Health Centres should cover a population of 12,0000 in urban area and 80000 in the hilly, tribal and remote areas . Each PHC should serve a population of about 30000 in plain areas and 20000 in hilly / tribal and remote areas and Sub Centre should cover a population of 5000 in plain area and 3000 in tribal, hilly and remote area. These norms have been fixed to make the health centres more accessible and available to the people.

Table 2: Average Rural Population covered by the Health Centres- India and Kerala (2001-2015)

Year	Average number of population covered by Community Health Centres		Average number of population covered by Primary Health Centres		Average number of population covered by Sub Centres	
	India	Kerala	India	Kerala	India	Kerala
2001	1,63725	1,01178	31,364	28,997	5049	5153
2005	183558	220322	33191	25934	5111	4628
2010	1,72375	80440	34,641	21,577.	5624	3815
2015	1,54,512	78,699	32,944	20506	5426	3418

Source: Rural health statistics 2005, 2011 & 2015

The table 2 presents the average rural population in health centres of India and Kerala. There is a declining trend in average rural population coverage during the period 2010 to 2015 in the primary health care institutions in India and Kerala. However, during 2015 in India, SubCentre covered a population of 5426, PHC 32944 and Community Health Centres 154512 which was more than what was prescribed by the Government. In Kerala, it is within the government norms with Sub Centres having 3418, PHC 20506 and Community Health Centres 78,699 population. More coverage of population by health centres are indicative of the fact that adequate number of health centres has not been established against the requirement. This not only affects the quality and delivery of health care services adversely, but also accentuates the problem of overcrowding in health centres. The trend line for average rural population coverage of health centres is shown in figure 2.

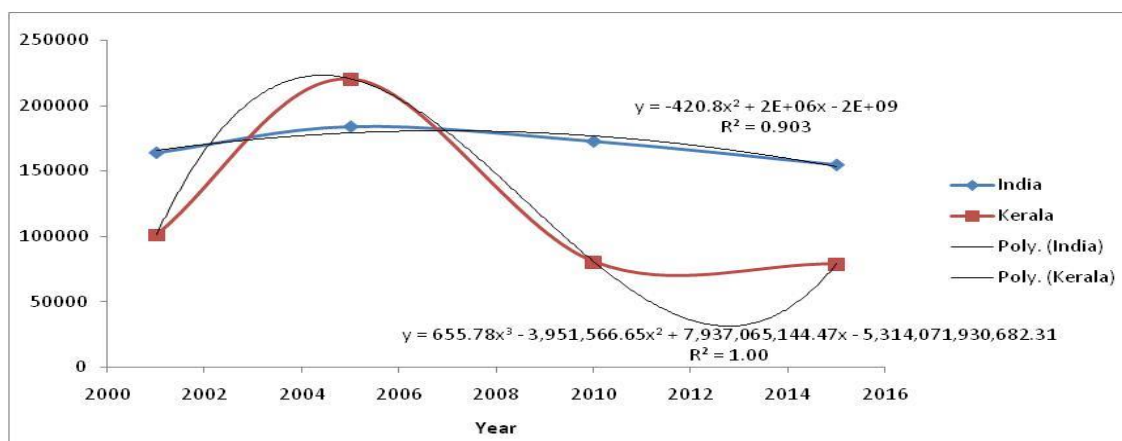


Figure 2: Average Rural Population Coverage of Community Health Centres-India and Kerala

Source: Computed from Table 2.

The figure 2 shows a polynomial trend in the average rural population coverage of Community Health Centres in India and Kerala.

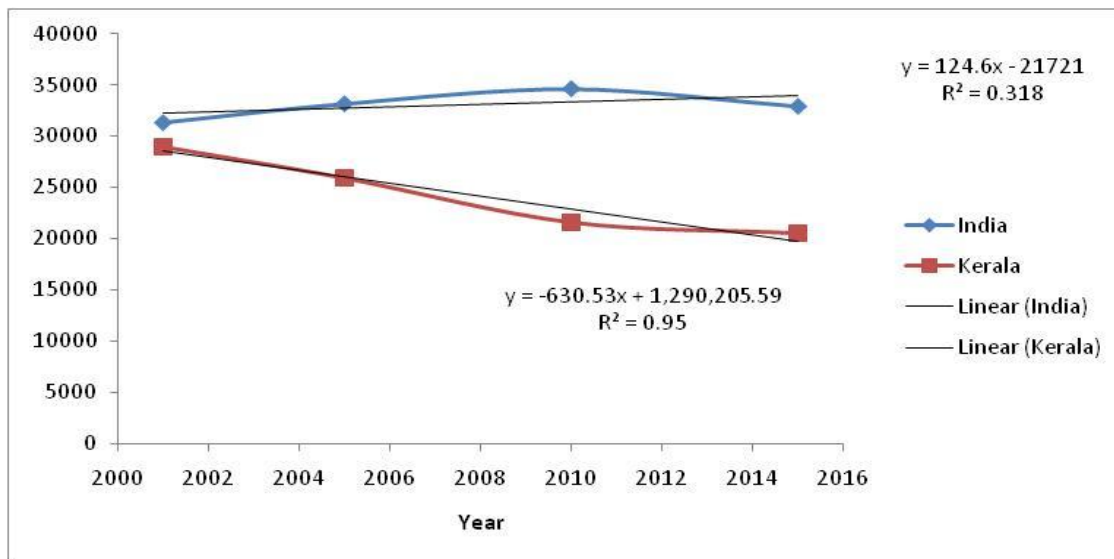


Figure 3: Average Rural Population Coverage of Primary Health Centres-India and Kerala

Source: Computed from Table 2.

The figure 3 shows a linear trend for both India and Kerala. In Kerala there is a decrease of 630.53 average rural population for Primary Health Centres in every five years and in India there is an increase of 124.6.

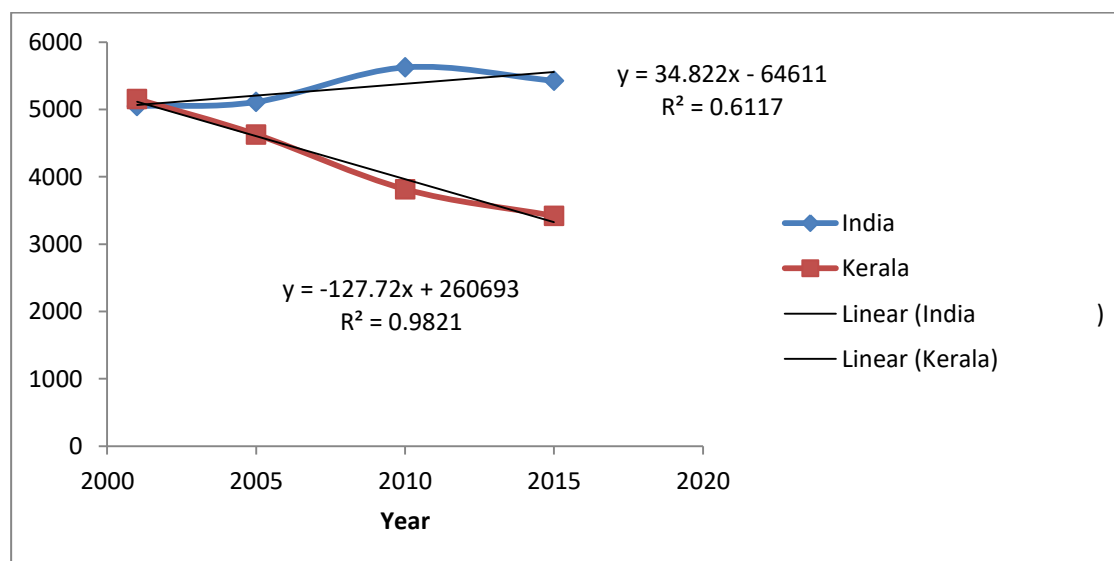


Figure 4: Average Rural Population Coverage of Sub Centres-India and Kerala

Source: Computed from Table 2

The figure 4 shows a linear trend for both India and Kerala. In Kerala there is a decrease of 127.7 average rural population for Sub Centres in every five years and in India there is an increase of 34.82.

The trend lines in the figure 2,3 and 4 for average rural population coverage of the health centres over the years depicted that, the population coverage for the health centres in Kerala have declined over the years. Establishment of more health centres in Kerala as per the IPHS norms is the reason behind this. But in India, the average coverage of population was high till 2010 for Sub Centres and PHC and it shows a declining trend after 2010. This shows that more health centres are to be established in India to fulfil the norms of IPHS. While comparing with India, a declining trend in the population coverage of Kerala shows that Kerala is comparatively functioning well.

3. HUMAN RESOURCES

Sufficient human resources are an essential pre-requisite for better performance of any institution including the health care centres. Doctors/Medical Officers, health assistants and health workers are the main human resources for promoting services in the Primary health care system. National Rural Health Mission launched on 12th April 2005, helped to provide additional manpower to the Primary health care system.

Medical Officers:

The doctors designated as medical officers are responsible for implementing all activities that come under Health and Family Welfare delivery system in the health centres. They are solely responsible for the proper functioning of the health centres and are considered as the integral part of the health centres. Hence the availability of medical officers is an important factor for the better performance of the health centres.

Table 3: Number of Doctors/Medical Officers in the PHCs-India and Kerala

YEAR	India	Kerala
2001	25724	1131
2005	21974 (-14.58)	1152 (1.86)
2006	(1.36)	1151 (-0.09)
2007	22608 (1.50)	1558 (35.36)
2008	24375 (7.81)	1732 (11.17)
2009	23982 (-1.61)	1063 (-38.63)
2010	25870 (7.87)	1122 (5.55)
2011	26329 (1.77)	1122 (0)
2012	28984 (10.08)	1152 (2.67)
2013	29562 (1.99)	1168 (1.39)
2014	27355 (-7.46)	1169 (0)
2015	27421 (0.24)	2196 (88.01)

Source: National Health Profile, Various issues from 2005 to 2016.

Note: Figures in bracket shows growth rate of Doctors/Medical Officers in the various plans.

The table 3 shows the number of Medical Officers in the PHCs in India and Kerala. During the period 2005-2015, in India the number of Medical Officers at the Primary Health Centres has increased from 21974 to 27421, whereas in Kerala it rose from 1152 to 2196. If this increasing trend continues one can assume that, the shortage of doctors in the PHCs in Kerala could be rectified in the next few years within the existing system without increasing the number of medical colleges (Rural health statistics, 2011). Presently around 1,100 Primary Health Centres (5%) across the country function without doctors in rural areas; but in Kerala, no Primary Health Centres is found without doctors. Primary health care services rely too heavily on the presence of doctors, despite having a shortage of doctors nationally. Since many doctors do not live in the rural areas, especially in remote areas, the primary health centres become dysfunctional.

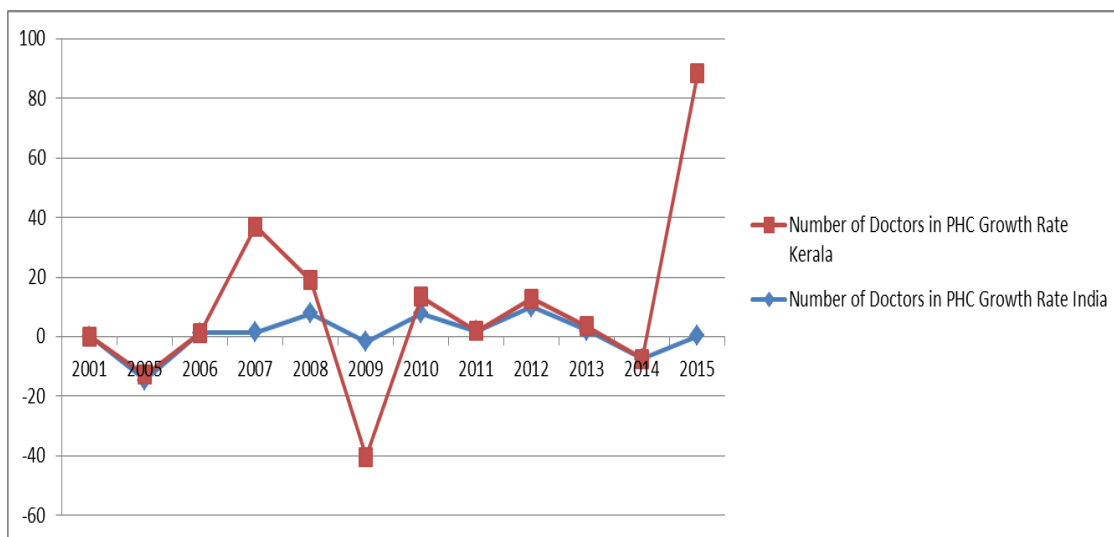


Figure 5: Growth Rate in the Number of Medical Officer/Doctors in the PHCs - India and Kerala

Source: Computed from Table 3

The figure 5 exhibits inconsistency in the growth rate of doctors in the PHCs in India and Kerala; while the growth rate in Kerala during 2015 is very high but it is very low in India. The growth rate in Kerala during 2015 is very high but it is very low in India.

Health Assistants and Health Workers:

Health assistants are also important functionaries of the Primary health care system. Their role is supervising of field-based services. They are expected to understand the intricacies of service delivery at the field level and also capable of solving the common health problems of the people. They are supported by health workers including Auxiliary Nurse Midwife (ANM).

The growth rate of India and Kerala for health Assistants and health workers is shown in Figure 6 and figure 7.

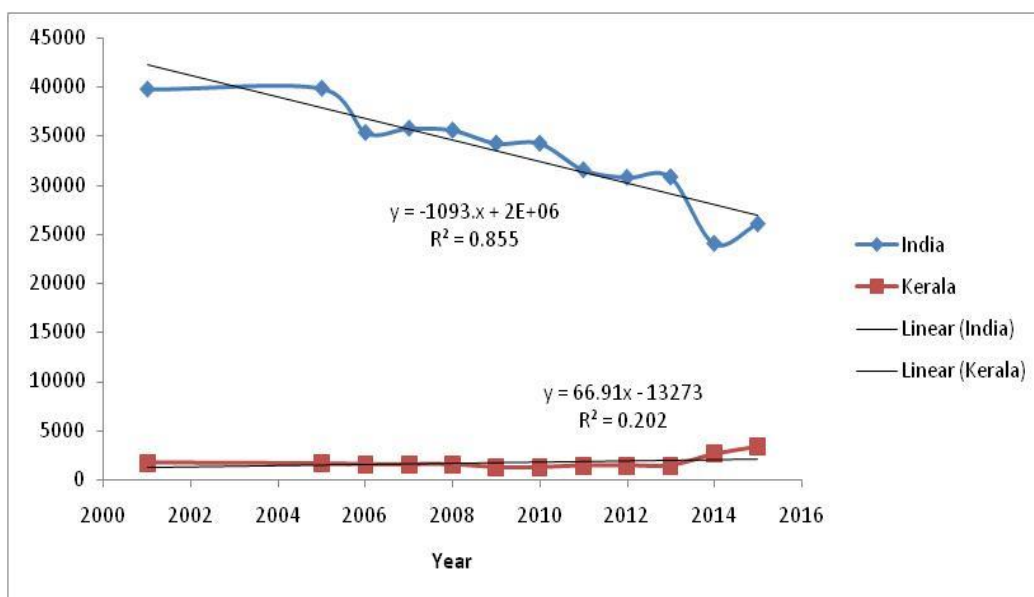


Figure 6: Trend in the Growth Rate of India and Kerala for Health Assistants

Figure 6 shows a linear trend for both India and Kerala. In India, there is a decrease of 1093 health assistants in every year and the growth rate is seen negative whereas in Kerala, there is an increase of 66.91 health assistants every year and the growth rate is positive.

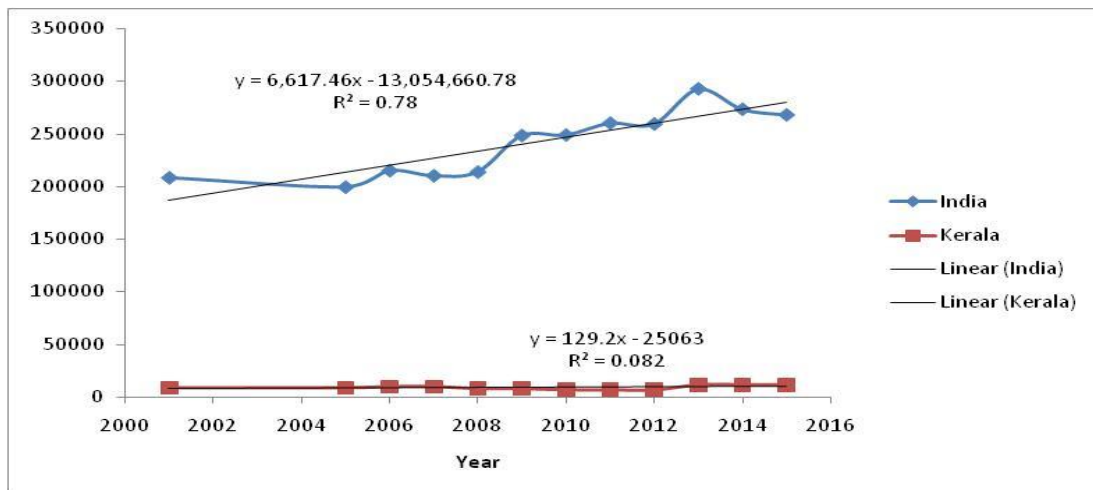


Figure 7: Trend in the Growth Rate of India and Kerala for HealthWorkers

Figure 7 shows linear trend for both India and Kerala. The growth rate of health workers in India and Kerala is positive but it is more in India compared to Kerala.

The fig 6 and 7 gives a picture of the growth of health assistants and health workers from 2001 -2015. There is a decrease in the number of health assistants in India, whereas it increased in Kerala. The number of health workers increased both in India and Kerala. The number of health workers has increased in 2013 due to the increase in the number of health centres both in India and Kerala.

Now the study make an attempt to analyze the achievements of the primary health care services performed in the community.

4. PRIMARY HEALTH CARE SERVICES

Primary health care system has been providing various services to the community in the form of medical care and preventive and promotive services to the community. Maternal and child health, immunization and family planning services are part of the primary health care services.

Maternal and child health (MCH) remained an integral part of family welfare programme from the beginning of the initial five year plans. It is integrated with the primary health care services in the light of the National Policy 1983. The Child Survival and Safe Motherhood Programme launched in 1992-93 was a major landmark and it is incorporated with RCH by 1996. The main services of RCH is providing Antenatal care (ANC) to the households. It includes the provision of iron supplementation for pregnant mothers, two doses of tetanus toxoid vaccine and a drug to get rid of intestinal worms.

Family planning is yet another family welfare programme of the health department. In Kerala, Family Planning Board was constituted in 1957, with the Minister of Health as Chairman and a full-time Family Planning Officer as one of the members.

Immunization is the part and parcel of health programme meant for preventing and disinfecting those contagious and contemporary diseases that affect the masses at large. With a view to materialize some of the aspects, Kerala launched an Immunization Programme in 1970, which later was modified in 1980. After introduction of these programmes, there was a sharp decline in the infant mortality rate. TT Immunization for pregnant women against TT was introduced in 1975-76, Polio and typhoid vaccination in 1980-81 BCG vaccination in 1981-82, and measles vaccination in 1985-86 and Pulse Polio Immunization in December 1995 as a part of major national effort to eliminate polio. The State of Kerala could achieve 100 percent result and it is going ahead of other states of India. Another achievement is the rolling out of Pentavalent vaccine as part of the Universal Immunization Programme (The Hindu, 2011). It is estimated that more than 250 million children worldwide have deficiency disorders of vitamin A. As a part of the national programme on prevention of targets, every child under the age of 5 years is being administered an oral dose of vitamin A at an interval of every 6 months starting from the nine months of a child. The target achieved for maternal and child

health, family planning and immunization for India and Kerala during the different periods is shown in the figure 8 and 9.

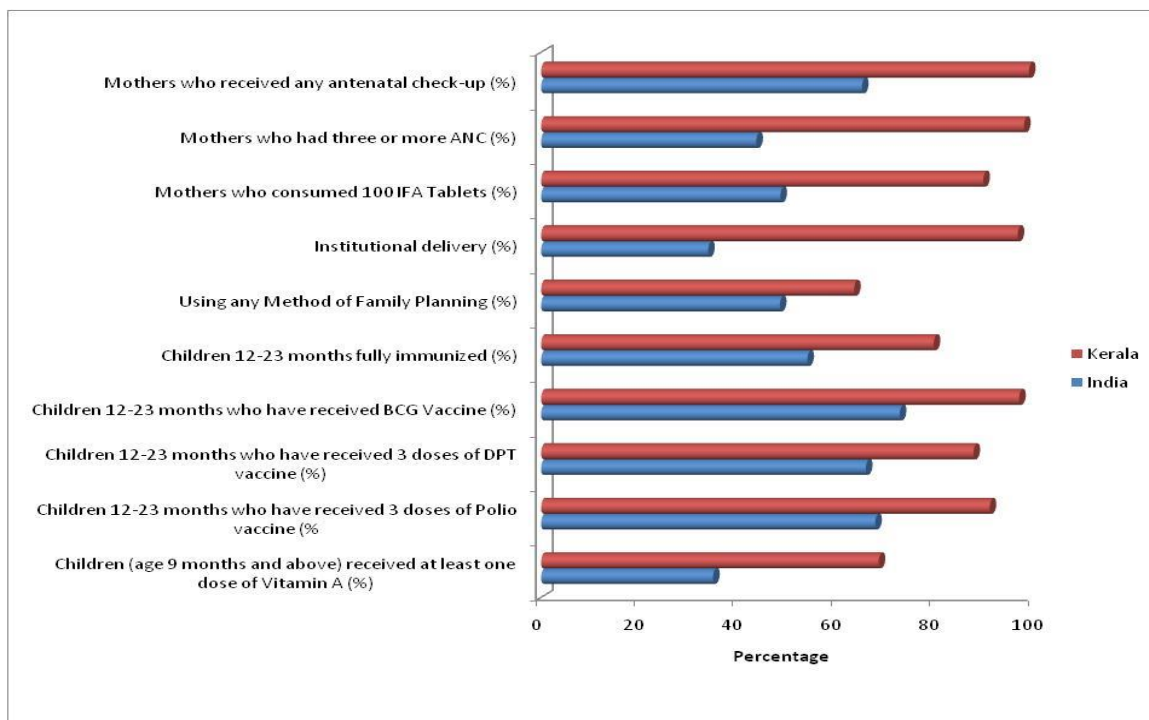


Figure 8: Performance Indicators of Maternal and Child Health, Family Planning and Immunization- India and Kerala (1998-1999)

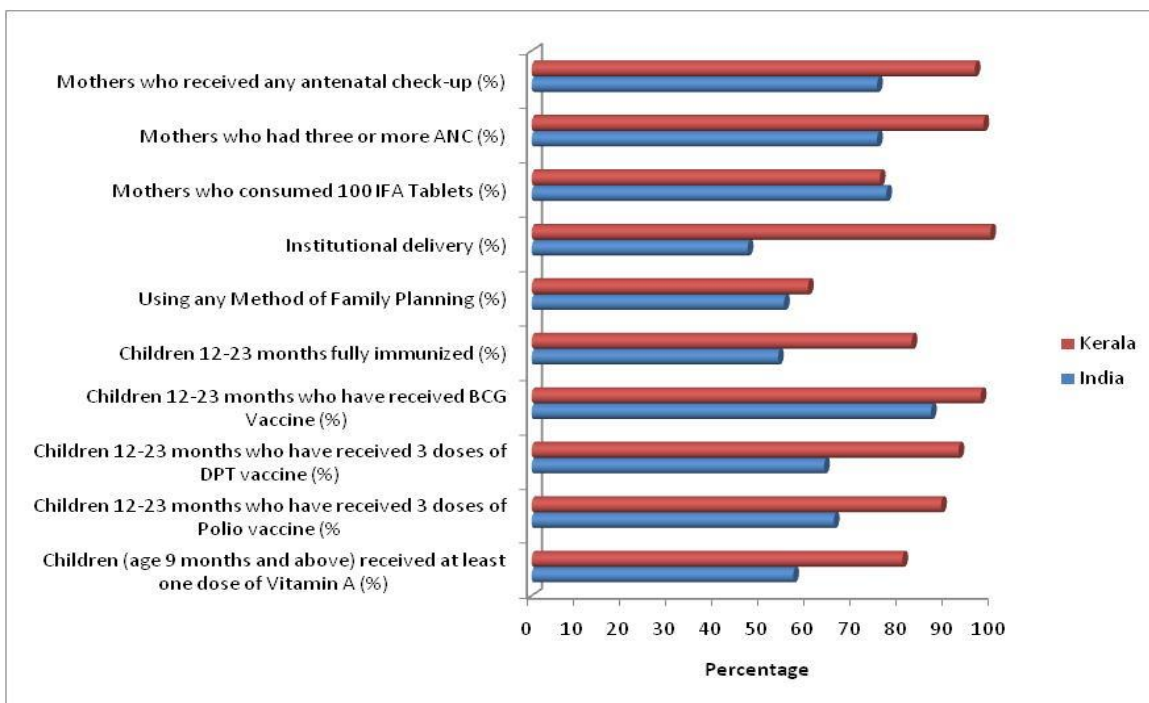


Figure 9: Performance Indicators of MCH, Family Planning and Immunization- India and Kerala (2012-2013)

Note: DPT has been replaced by Pentavalent vaccine in Kerala and Tamil Nadu from 2012-13. Children are considered fully immunized if they receive one dose of BCG, three doses of DPT and polio vaccine each, and one measles vaccine. The DPT is an immunization or vaccine to protect from Diphtheria (D), Pertussis (P), and Tetanus (T).

Figure 8 and 9 is illustrated to depict the changes in the achievements of primary health care services indicators over the years. In 1998-99, the State of Kerala performs far better than Indian average and even after a period of thirteen years in 2012-13, Kerala was still performing better than Indian average in all the primary health care service indicators mentioned above.

The facts referred to above points out that the improvement in the growth of health centres, average population coverage of health centres, achievements in maternal and child health, Family planning and Immunization over the years is better in Kerala than India. The growth of health centres over the years, with the support of the human resources has promoted the primary health care service programmes which have contributed the state with a better health status

5. CONCLUDING OBSERVATIONS

The State Kerala has a long history in the Primary health care system since the 19th century. Whereas the average rural population covered by the health centres in India is above the norms of the government, it is within the norms in Kerala. In Kerala, the number of doctors, health assistants and health workers have shown increasing trend in almost all the years. Comparing with India, Kerala's indicators on maternal and child health, family planning and immunization also have shown better performance. This study shows that Primary health care system has a pivotal role in the growth of health care system of every nation. The need to strengthen Primary health care system is of utmost importance for sustaining our health care system. The three levels of Primary health care system should be effectively utilized to improve the health of the rural society.

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