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Does Public Health Care System Need more focus on Urban Health? Evidence from Kerala

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Abstract

The quality of health care service delivery depends up on health status of the people which is an indication of the development of health care sector. Public sector gives significant variations in what the state provide facilities on health care delivery in rural and urban areas. Hence, an analysis of performance of public health care service delivery assumes significance. This paper examines and measures the quality and efficiency of services provided by urban primary health centre in Kerala and a comprehensive method adapted from Donabedian model is empirically evaluated for its purpose. To find out the most significant factor which influences the quality and efficiency of health care services in selected UPHC, Garret's ranking method was used. The result reveals the fact that existing infrastructure facilities, services and staffs are adequate to meet the health needs of the urban people in the patient perception level and patients are satisfied with urban primary health centre as a day-to-day caring institution which maintain and improving health of the urban people to achieve sustainable health for all. As the Kerala is a rapidly urbanizing state in India and around 50% of population belongs to urban area, the improvement of the public healthcare system requires much thrust and care on urban primary health centers. This signifies the importance and need for more UPHC in Kerala in the context of rapid urbanization. To excel the public health care advancement and human development potentials of the state, it is important to introduce more urban health centers, urban health policies and health improvement programmes which improve healthcare delivery services, perception of the rock-bottom communities towards healthcare and efficient and timely delivery of healthcare among the most wanted and needy urban population.

Keywords: health service delivery, primary health centres, urban health, Kerala.

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Introduction

Health is an integral component of the overall socio-economic development of a nation. The vision of World Health Organization (WHO) has the highest attainable standard of health for all people in all countries. Urbanization is a major public health challenge for the 21st century, as urban populations are rapidly increasing, basic infrastructure is insufficient and social and economic inequities in urban areas result in significant health inequalities (Vlahov et al., 2006).In 2030, 60% of all people will reside in cities, proportionally twice that of 1950. For most of us from now on, life and death will be an urban affair (WHO, 2016).Both central and state governments have a vital role to play in supporting urban health. The existing situation necessitated the starting of Public health care centres exclusively for these marginalized and excluded urban section in the country. As a solution to address the health concerns of the urban poor, the health Ministry proposed to launch a National Urban Health Mission. The implementation of National Urban Health Mission (NUHM) helped for a systematic representation of the urban health needs for the first time. The Urban Primary Health Centre (UPHC) on the lines of a rural Primary Health Centers has introduced as the nodal point for delivery of health care services under this Mission. The services and services delivery mechanism of Urban Primary Health Centres is modified to address the unique health and livelihood challenges faced by the urban population and flexibility is ensured to adapt suitable changes for the needs and capacities of the states and local bodies.

Health Service Delivery: Kerala View

Compared to other states in India, Kerala had a remarkable achievement in the field of health supply and utilization. These outcomes are the combined result of the assigned focus to all sections; the preventive, primitive and curative medicine altogether. Education also plays a crucial role in improving the health service utilization (Panikar, 1979). The number of CHCs, PHCs and Sub Centres during 6th to 12th Five Year Plan Period in Kerala shows an increasing trend in actual figure, however, there is a frequent drop in annual growth in the number of PHCs and sub centres during the period. The standardization ofhealthinstitutionsin2009 leads to the decline in number of Sub Centres and PHCs, and a rise in CHCs as a few PHCs were converted into Community Health Centres (Rural Health Statistics, 2015; National Health Profile, 2018). From2005-2015,in Kerala the number of Medical Officer sat the Primary HealthCentreshasincreasedfrom1152to2196. Even though the growth rate is fluctuating through various periods, the recent trends is more promising towards a better performing health centres. If this increasing trend continues for the next few

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years, the shortage of doctors in the PHCs can be corrected and the efficiency in the performance of PHCs can be improved at a greater level (National Health Profile, 2015).

Even though Kerala public health care stands up compare to other Indian states, the level of utilization is comparatively low in Kerala. Poor facilities and high opportunity cost of treatment are found to be the major reasons. Even decentralization cannot much helped the performance of health care institutions in Kerala, however, the active support from panchayath can leads to better positive results (Varatharajan, 2004). Koji Nabae (2003) analyzed the present situation of Kerala model development and argued that Kerala is dropping its advantage in health care. People are more vigorous to depend on private health care system due to the inefficiency and inadequacy of public health services. Change in health care policies, strengthening decentralization in health sector, and increased health investments through Public Private Partnerships are advocated to regain the old advantage in health care mechanism.

The urban population in Kerala has registered a huge growth with increase in towns. The state positioned 9th place in the level of urbanization among the states in India in 2011(Census, 2011). The urban poor experience serious social exclusion in respect of ineffective health delivery system, overcrowding at government hospitals, unfriendly treatment and high expensive treatment at private health care facilities. The public health network in urban areas is insufficient and operate sub optimally with low man power, equipment, medicines and poor referral system (Arogyakeralam, 2015).

The level of inequity in OP care across rural and urban areas differed from one state to the other. However, the utilization of outpatient care was sloped in favor of the rich and the extent of inequity was lesser in urban areas compared to rural areas. States such as Punjab, Kerala etc. achieved almost horizontal equity in OP service utilization in rural and urban areas. It does not necessarily imply low level of inequality in utilization, because of the fact that a proportion of poor people maybe did not report any health issues primarily to lack of awareness (Ghosh, 2014).

The Performance of health care system in Kerala is one of the best and noteworthy in India. However, the problems in healthcare utilization due to low facilities are the core that limits the full potential in the performance. High opportunity cost of medical care in Government hospital and the high service cost in private sector hospital leads to the shifting of Primary Health Centers directly under local government control. The role of local governments is to identify the problems, needs in the existing service and to develop better schemes to

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strengthen the resource utilization in the health care sector. This move has enhanced the community involvement in health care delivery and thereby helped to control the infectious and communicable diseases and to restructure the existing health care organizational setup (Varatharajan, ThankappanandSabeena 2004).

The health care system in Kerala is well advanced in terms of its function and coverage than the other Indian states; however the inadequacy in basic facilities leads to low level of utilization. Similarly the opportunity cost of pursuing medical care from the government sector is high, all this attracts them to private health care and nearly 60–70 percentage of the poor seeking care from the private sector and spending unduly on health care (Kutty ,2000). The coordination of urban health care at the state level is also a severe problem. Local self-governments does not control the functions of urban health based on a common guideline. Implementing common regulation mechanisms for urban health system is required. Similarly, a long term planning and focus must be implemented to cover the health needs of urban poor. All health related planning must be done by considering the existing urban perspectives and context. The worst side of urbanization occurs in urban slums and the policy implications should focus the upliftment of these sections of people (Nadita and Kanitkar, 2002).

Health Services in Kerala

In Kerala, the health care system consisting of government, private and co-operative sector. Kerala is best performing state in terms of health outcomes based on its huge number of public health institutions. It includes sub-centre, primary health centre, community health centre, district hospitals and medical colleges. There are 1281 health institutions with 38,302 beds and 5,335 doctors under Health Services Department consisting of 849 Primary Health Centres, 234 Community Health Centres and 18 District hospitals (Economic Review,2017),

Table 1.1

Health Services in Kerala

	Total	Urban	Rural	Urban (%)	Rural (%)
SC	5866	400	5466	6.82	93.18
PHC	958	87	871	9.08	90.92
CHC	234	2	232	0.85	99.15
SDH	373	66	307	17.69	82.31
DH	59	0	59	0.00	100.00
Total	7490	555	6935	7.41	92.59

Source: Ministry of Health and Family Welfare, Govt. of India 2019

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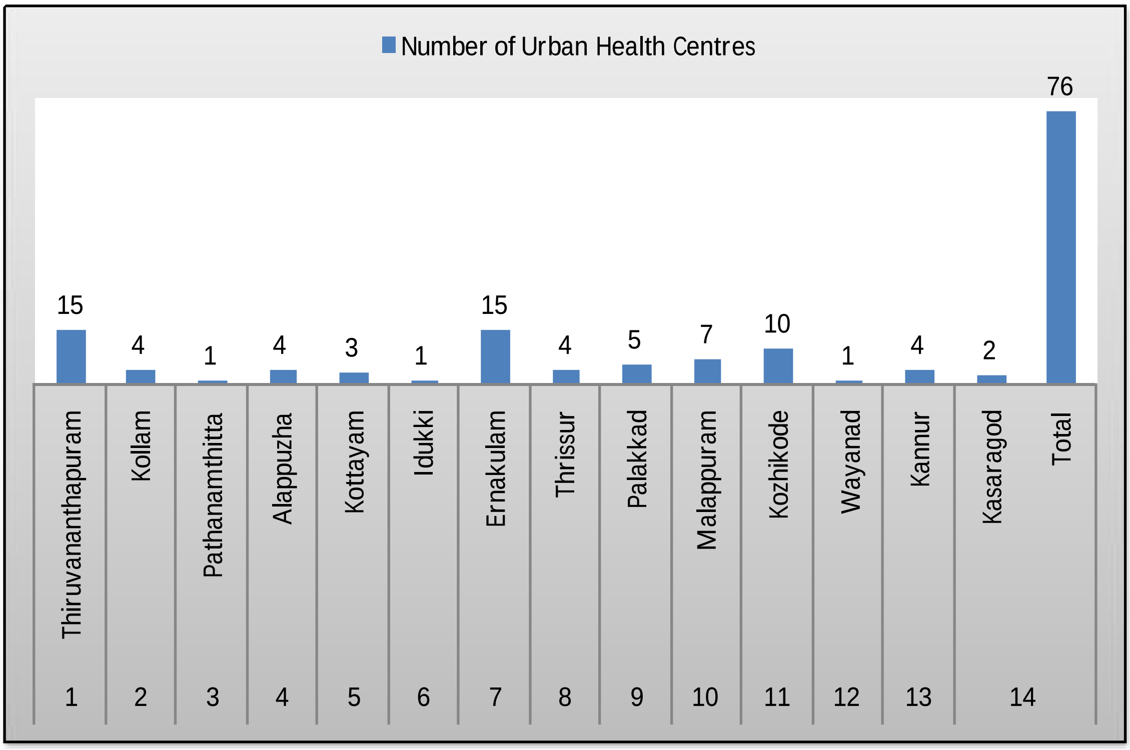
In 2019, there is 7490 health service centers in Kerala (see table 1.1). Out of this, 555 and 6935 health services are situated in urban and rural area respectively which means that 93 percentages of health service facilities are available in rural area.The Sub Divisional Hospitals and district hospitals are the main health institution in urban Kerala.There are 81 sub divisional hospitals in Kerala. Out of 81, 11 are situated in Ernakulam district and 9 in Kannur district. There are 14 districts in Kerala along with 18 district hospitals. In Kottayam, there is no availability in district hospital.Out of 18 district hospital, only 4 districts which are Thiruvananthapuram, Alappuzha, Idukki and Malappuram followed more than one district hospitals in Kerala.

Figure: 1.1

District-wise list of Urban Health Centres approved under NUHM inKerala



Source: Ministry of Health and Family Welfare, Govt. of India

In Kerala, there are 76 urban health centers provided by NUHM. Out of 76, 40 percentages of health centers are situated in Thiruvananthapuram and Ernakulum district.

Statement of the problem

Kerala with best public health systems in the country is susceptible to many infectious and life style diseases attracting the attention of the nation as a whole. The state is characterized by increasing urbanization with lack of basic amenities, poor utilization of public health care

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services, problem of nutrition, immunization, adolescent health and gender issues. The state reported the highest deviations in ailments for urban and rural areas. The reported ailments among rural people in Kerala is 31 percent and among urban population is 30.6 percent in 2014 (Business Standard, July 17, 2015). The low health status among urban poor and vulnerable is associated with inefficient and inequitable access to health services in terms of physical availability, affordability and financing, poor health seeking of urban poor and system efficiency, reliable quality of services in terms of technical or clinical quality and patient satisfaction and weak institutional capacity at city, state and central level.

The increasing trend of urbanization along with morbidity and private sector dominance in provision of urban healthcare provides challenges in the public provisioning of health services especially through Primary Health Centres. The UPHCs in Kerala face the issue of inefficient and inequitable health care services, low quality of health care services and weak institutional capacity. There is a need of revival of primary health care services in urban areas through starting up of new health centres, improving referral linkage, provision of quality services, strengthening community outreach, increasing the public expenditure on health and support Urban Local Bodies capacity in public health. Therefore, the present study aims to explore the performance of UPHCs in Kerala in the light of high urbanization and proliferation of urban slum.

Research Questions

- ❖ Is the performance of UPHC in urban areas is productive and positive for augmenting health status of the needy sections? Is there any challenge in the functioning of UPHC in Kerala?
- ❖ Is the quality and nature of outreach services is really good and appreciated by the public? Whether the human resource potential and infrastructure are sound enough to cater the required services as the part of UPHC?

Objectives of the Study

1. To study the nature and working of UPHCs in Kerala as a dependable centre of health care for the poor and deprived sections.
2. To examine the performance of UPHCs in terms of output, quality and outreach services to the urban poor in Kannur district.

Hypothesis

- ❖ The UPHCs is well equipped to cater the varying and diversified morbidity prevalence in urban Kerala.

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- The poor health status of urban vulnerable is associated with lack of efficient, equitable and reliable quality of health services.

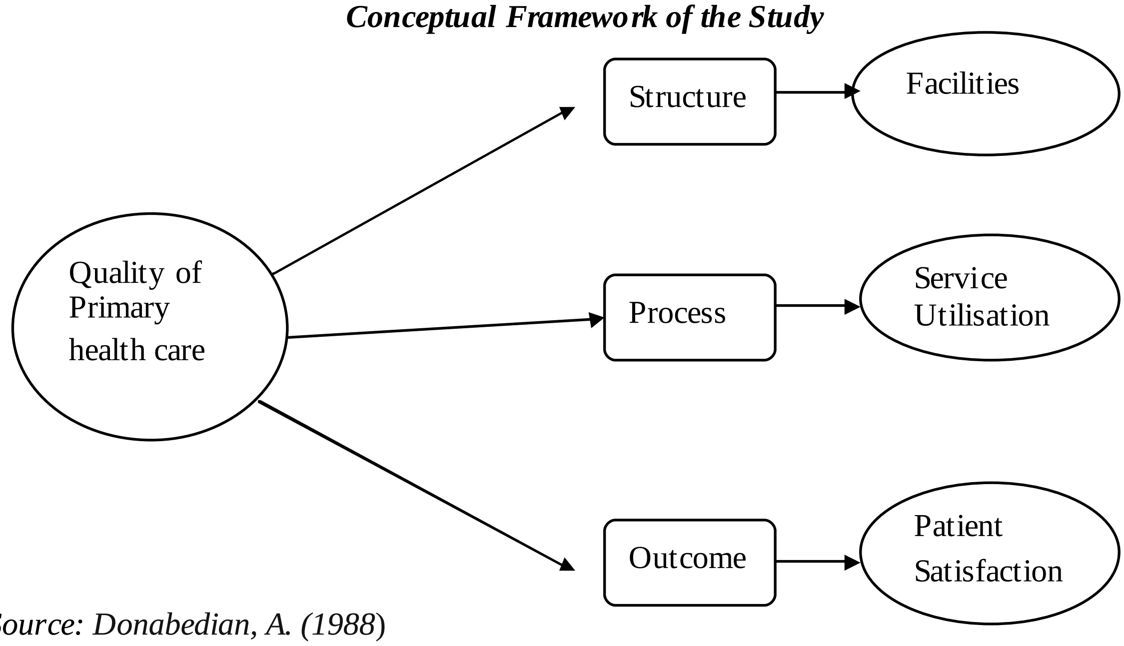
Conceptual Framework

Donabedian model has been a widely accepted method to suggest the different dimensions of healthcare quality and efficiency. This model based on the idea is that there is a unidirectional pathway to service delivery.

According to this model, healthcare quality should be based on three components which are Structure, Process and Outcomes. The factor "Structure" refers to trained and organizational parts associated with staffing, equipment, and availability of medicines. Process denotes the activities taking place during the delivery of care to the patients like diagnosis, prescription, hospital referral and finally, outcomes measure which seek to the effects of healthcare on the health status of patients throughout the delivery of healthcare.

Figure: 1.2

Conceptual Framework of the Study



Source: Donabedian, A. (1988)

The above figure illustrates that the patient's perception about primary health centre facilities and services explained as structure and process dimension and the satisfaction level of patients is explained in outcome dimension.

Data Sources and Methodology

Kannur is the fourth urbanized districts in Kerala (65.26%, 2011) with more than 50 percent of its residents belonged to urban area. The survey was conducted in four UPHC which are

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Maithanapally (Kannur Corporation), Koovode (Thaliparamba Municipality), Kolassery (Thalassery Municipality) and Muthathy (Payyannur Municipality).PPS method has been used to identify the sample size for the study.Based on the beneficiary list, the total sample size was 200 selected from four UPHC in Kannur district.To check the accessibility and quality in the delivery of services in four UPHCs, a structured interview schedule has been prepared and the data for this study is based on household survey conducted in the month of July 2019. The target respondent was for analyzing the objectives of the study, percentage, Ranking Index and Rating Scale has been used. To prove the relationship between quality of service and patients satisfaction, correlation analysis is used.

Analysis of Data

Socio-Economic Profile

The socio economic profile of patients presents a vivid picture of factors such as age, gender, religion, education, employment and financial status and income of the family .The variables of financial and employment status play equally important role in selecting health care services.

Table 1.2

Characteristics of Respondents

Characteristics	**Respondents**			
	Kolassery	Maithanapally	Koovode	Muthathy
Age				
< 25	4	2	1	5
26-40	27	58	10	31
41-60	7	26	9	16
61 and >	0	2	2	0
Gender				
Male	22	37	6	25
Female	16	51	16	27
Marital Status				
Married	8	10	1	7
Unmarried	29	77	18	43
Widow	1	1	3	2
Religion				
Hindu	29	46	16	41
Muslim	6	34	6	6
Christian	3	8	0	5

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Education				
Illiterate	1	6	4	1
Primary	17	41	7	20
High School	7	24	5	14
Higher Secondary	4	14	1	3
Others	9	4	5	14
Employment Status				
Housewife	10	48	13	19
Business	19	17	1	17
Agriculture	4	16	2	4
Govt Employee	1	9	2	0
Others	4	7	2	5
Financial Status				
BPL	1	30	4	5
APL	37	58	18	47
Annual Income				
0-36,000	13	33	7	13
36,001 to 50,000	0	0	0	1
50,001 to 90,000	16	42	8	17
90,001 and above	10	13	7	21

Source: Field Survey,2019

Gender is an important factor which influences the level of perception on the services offered by the urban primary health care. Out of 4 areas, a maximum of 55 per cent of the patients are female, whereas the remaining 45 per cent are male. Among the patients in the Kolassery, the most important gender is male since it constitutes 11 per cent to the total of 45 percentages of patients. In the case of patients from Maithanapally, Koovode and Muthathy, female constitute 25.5 ,8 and 13.5 percentage and male constitutes 18.5,3 and 12.5 percentage respectively. Therefore, there are more number of female respondents compared to male respondents.The youths are well aware of the availability of health care services offered by the primary health centres in Kerala. So that the age of the patients is confined to less than 25 years, 26 to 40, 41 to 60, and above 60 years. The important ages among the patients are 26 to 40 which constitute 63 and 41 to 60 years is 29 per cent to the total. The category of marital status of the patients shows that married group which constitutes 83.5 per cent to the total. It is followed by unmarried which constitutes 13 per cent to the total. Religion wise data shows that 66 percentages of patients are belonged to Hindu religion followed by Muslim (26 percentage) and Christian (8 percentage).The important levels of education

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among the patients are primary and high school level. Among the patients in Maithanapally and Koovode, no one is post graduate level. Majority of respondents have completed school level education. The reason is that majority of them belong to 40 and above age category and also they are female. The employment status shows that house wife constitute 45 percentages of the total patients. The important occupations among the patients are business and agriculture which constitute 27 and 13 per cent to the total respectively. Financial status of the respondents clearly depict that 80 percentages of the patients are belonged to APL category, remaining 20 percentages are belonged to BPL category. Majority of respondents are belongs to the APL category which indicated that quality of health services in urban primary health centre is better and also the need of this type of more institutions in urban area.The important annual income groups among the patients are Rs.50, 001 to 90,000 which constitute 41.5 per cent to the total and 25.5 percent of patients belonged to annual income of above Rs.90, 001 category. The analysis reveals that the annual income among the patients in the Rs.50, 001 to 90,000 groups is greater than the annual income among the patients in the other groups.

Patient's perception on quality, quantity and efficiency:

To analyse the quality and efficiency of UPHC, three important factors included in the study. The study selected the factors are structure, process and outcome.

Patients Perception on Structure

Structure is an important factor which can be measured with the help of four related variables. On the basis of order of perception, variables are assigned scores at five point scale and also the mean scores of these variables have been computed separately.

Table: 1.3

Level of Perception on Variables in structure among the Patients

Sl.No.	*Variables*	*Mean score among the patients in*			
		Kolassery	Maithanapally	Koovode	Muthathy
1.	Good infrastructure and facilities	3.441	2.965	3.571	3.266
2.	Good Quality service	3.384	2.976	3.368	3.064
3.	Convenient working time	3.316	2.966	3.143	3.148
4.	Privacy during Treatment	3.368	2.899	3.105	3.088

Source: Field Survey,2019

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Regarding the perception on variables in structure, good quality service and good infrastructure and facilities are pertinent one. The result shows that there are significant difference among the patients in the Kolassery, Maithanapally, Muthathy and the Koovode in the case of all the four variables.

Patients Perception on Process

The process of UPHC services has been measured and mean score of each variable in process among the patients in the UPHC has been computed and depicted in table 1.4

Table: 1.4

Level of Perception on Variables in Process

Sl.No.	*Variables*	*Mean score among the patients in*			
		Kolassery	Maithanapally	Koovode	Muthathy
1.	Availability of experienced doctors	3.500	2.944	3.944	3.781
2.	Time spend by doctors for each patient	3.543	2.941	3.588	3.304
3.	Diagnosing Actual and suggesting apt medicine	3.763	2.931	3.533	3.322
4.	Health awareness programmes	2.868	2.116	2.050	2.342

Source: Field Survey,2019

Regarding the level of perception on variables in process, availability of experienced doctors and time spends by doctors for each patient is an important one.

Patients Perception on Outcome

The patients‟ perception on outcome gives the information about efficiency of health care in selected UPHC.

Table:1.5

Level of Perception on Variables in Outcome

Sl.No.	*Variables*	*Mean score among the patients in*			
		Kolassery	Maithanapally	Koovode	Muthathy
1.	Level of Satisfaction on Service	3.000	2.953	3.000	2.975
2.	Waiting Time	3.443	1.309	2.000	1.304
3.	Out of Pocket Expenditure	1.595	2.125	1.765	1.880
4.	Free Medicine	3.000	4.425	4.200	4.508

Source: Field Survey,2019

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The selected UPHC are offering free medicines to patients and their services are satisfied by the patients. Even though, there are significant differences among the patients in the selected UPHC have been noticed in the case of all the four variables.

Perception Variables

The levels of perception on the three variables have been computed by mean score which reflect the significant one in patients perception level.

Table: 1.6

Level of perception on variables among the Patients

Sl.No.	*Variables*	*Mean score among the patients in*			
		Kolassery	Maithanapally	Koovode	Muthathy
1.	Structure	3.241	2.965	3.571	3.266
2.	Process	3.232	2.944	3.452	3.781
3.	Outcome	3.421	2.953	3.944	3.975
	Average	3.298	2.954	3.655	3.674

Source: Field Survey,2019

The highly expected variables among the patients in the UPHC like Kolassery ,Koovode and Muthathy are outcome . In case of Maithanapally, it is Structure. On the basis of these variables, significant differences among the patients in the UPHC have been noticed in the case of structure, process and outcome. The average score indicates that score is almost equal in Muthathy, Koovode and Kolassery UPHC.

Preference and Ranking of Factor

To find out the most significant factor which influences the quality and efficiency of health care services in selected UPHC, Garret's ranking method was used. Then based on Garret ranks the table value is ascertained. The factor having highest mean value is considered to be the most important factor.

Table: 1.7

Ranking of Factors

	Factors	Kolassery	Maithanapally	Koovode	Muthathy
1	Diagnosing Actual and suggesting apt medicine	1	8	6	4
2	Time spend by doctors for each patient	2	7	4	3
3	Good Quality service	3	2	3	8
4	Privacy during Treatment	4	9	8	7

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5	Availability of experienced doctors	5	6	2	2
6	Waiting Time	6	12	11	12
7	Good infrastructure and facilities	7	4	5	5
8	Convenient working time	8	3	7	6
9	Level of Satisfaction on Service	9	5	9	9
10	Free Medicine	10	1	1	1
11	Health awareness programmes	11	11	10	10
12	Out of Pocket Expenditure	12	10	12	11

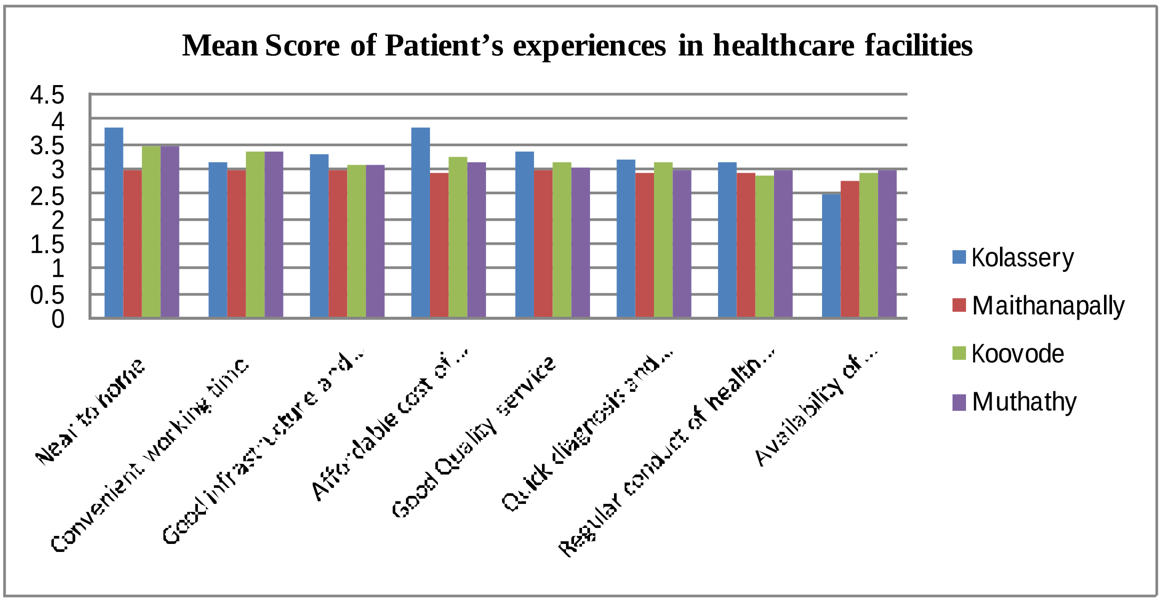
Source: Field Survey,2019

On the basis of Garret's ranking method, the highest score in Kolassery UPHC is awarded to Diagnosing Actual and suggesting apt medicine variable followed by Time spend by doctors for each patient. The least score is awarded to Out of Pocket Expenditure in Kolassery and Muthathy UPHC.Free medicine is most significant factor which influences the quality and efficiency of health care services in selected UPHC like Maithanapally, Koovode and Muthathy.In case of Maithanapally and Muthathy UPHC,the least score is awarded to waiting time to receive the health care. So it is inferred that "free medicine and Diagnosing Actual and suggesting apt medicine are the important factor of quality and efficiency of health care services.

Patient's experiences in healthcare facilities

The important variables selected for patient's perception on health care facilities are, near to home, convenient working time, good infrastructure and facilities, affordable cost of treatment, good quality service, quick diagnosis and treatment, regular conduct of health awareness camps and availability of experienced doctors.

Figure: 1.3



Source: Field Survey,2019

The patient's healthcare experience according to different types of healthcare facilities

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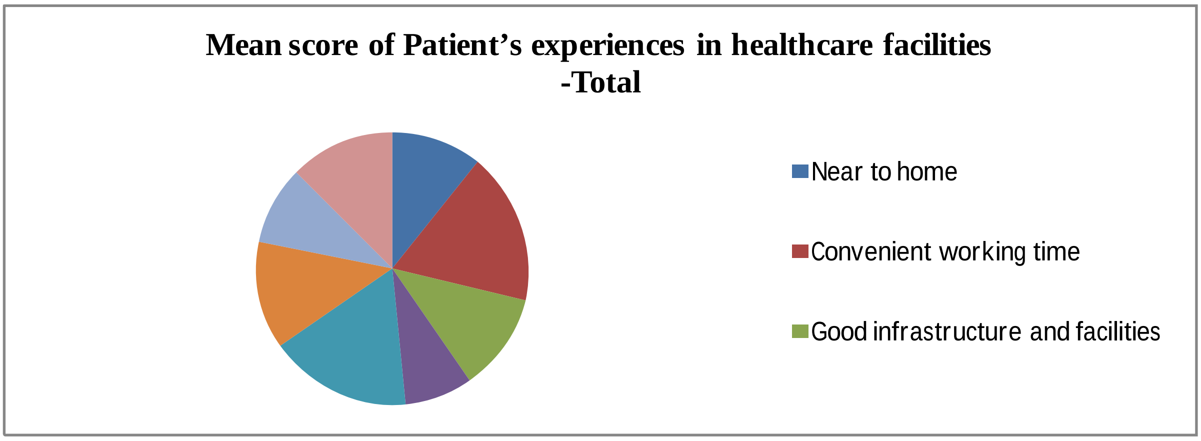
provided by selected UPHC shows mean value is very high which means that patients are using UPHC for their working time is convenient of patients and also it is near to home .The UPHC provided by experienced doctors by good infrastructure, facilities and treatment at affordable cost and also they conduct of health awareness camps which is very useful for patients.

Figure: 1.4

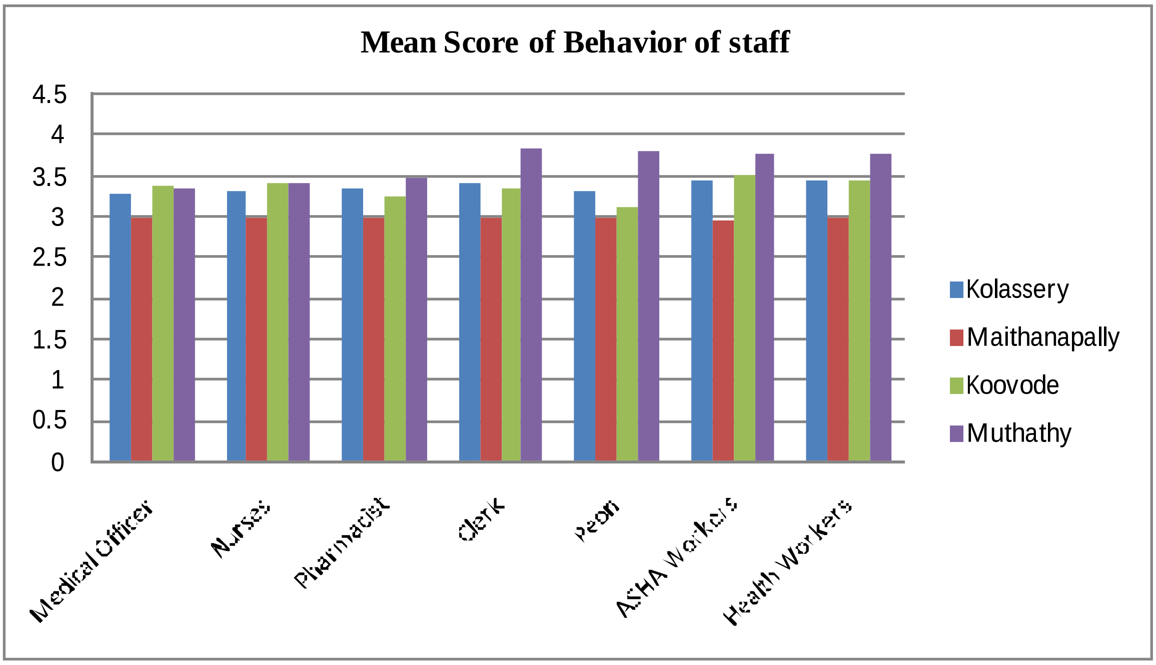


Source: Field Survey,2019

Patient satisfaction and Behavior of staff

Whenever the patients have problems, generally people expected that hospital staff would take keen interest in resolving these problems. In this context, the analysis of behavior of medical officer, nurses, pharmacist, clerk, peon, ASHA workers and health workers, is an important one.

Figure: 1.5



Source: Field Survey,2019

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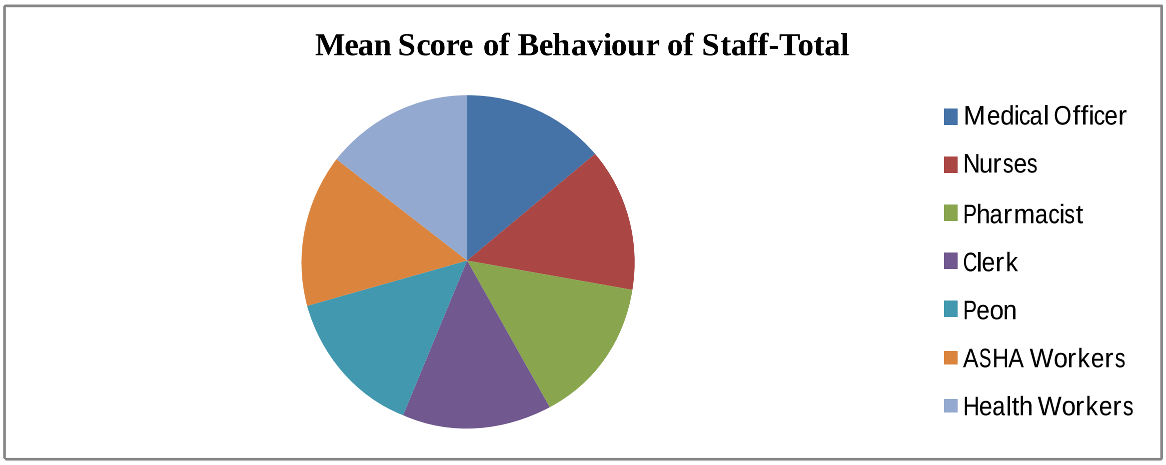
The mean value of behavior of staffs is very high in selected UPHC which indicated that patients are fully satisfied with staff's service.

Figure: 1.6

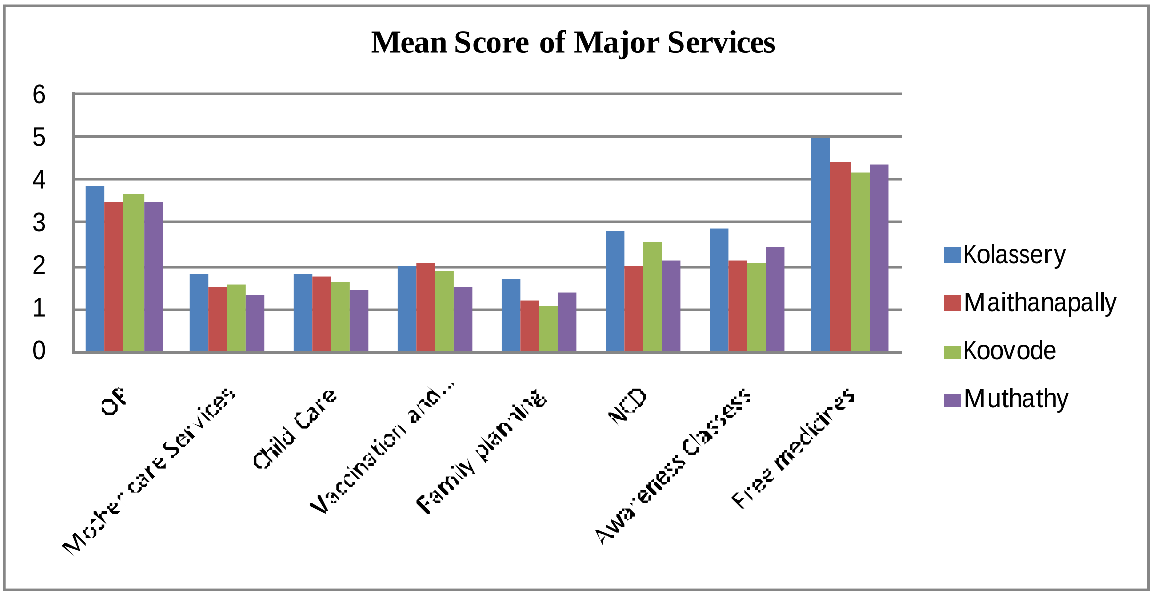


Source: Field Survey,2019

Major services obtained from UPHC

The UPHC provided by the major services are OP,Mother care Services,Child Care,Vaccination and Immunization, Family planning,NCD,Awareness Classes and Free medicines.

Figure: 1.7



Source: Field Survey,2019

The mean value of selected UPHC provided by services are high which means that patients are utilize these services more and more and they give information about the importance of

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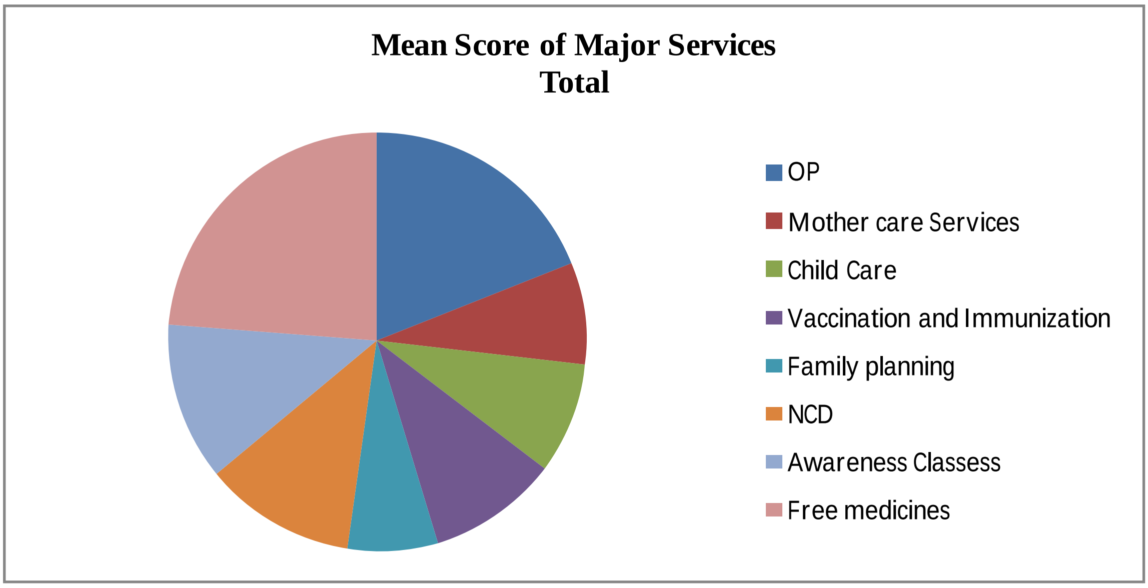
health centres in their healthy life.The customer perception about major services obtained from UPHC is free medicine and OP Services.

Figure: 1.8

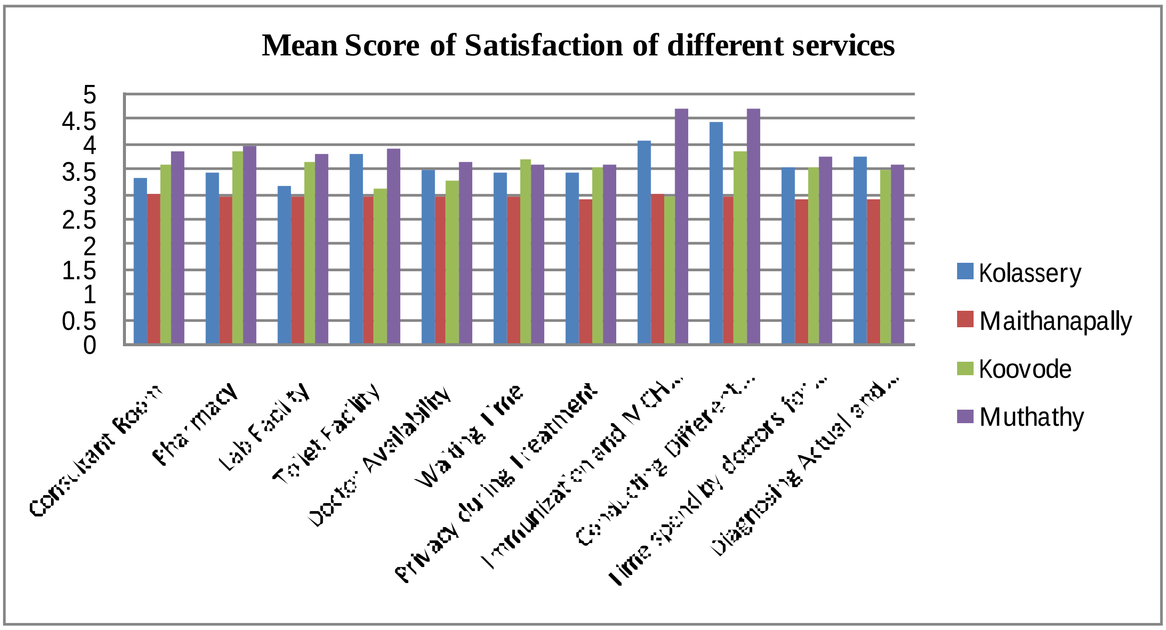


Source: Field Survey,2019

Patient satisfaction and service utilization

Patient satisfaction with the health care services largely determines their service utilization. Utilization of health care services is directly related to patient satisfaction which is considered as one of the desired outcomes of health care performance. The utilisation of services can be measured through Consultant Room, Pharmacy, Lab Facility, Toilet Facility, Doctor Availability ,Privacy during Treatment, Immunization and MCH programmes schedule and conduct, Conducting Different Health Awareness Programmes, Time spend by doctors for each patient and Diagnosing Actual and suggesting apt medicine.

Figure: 1.9



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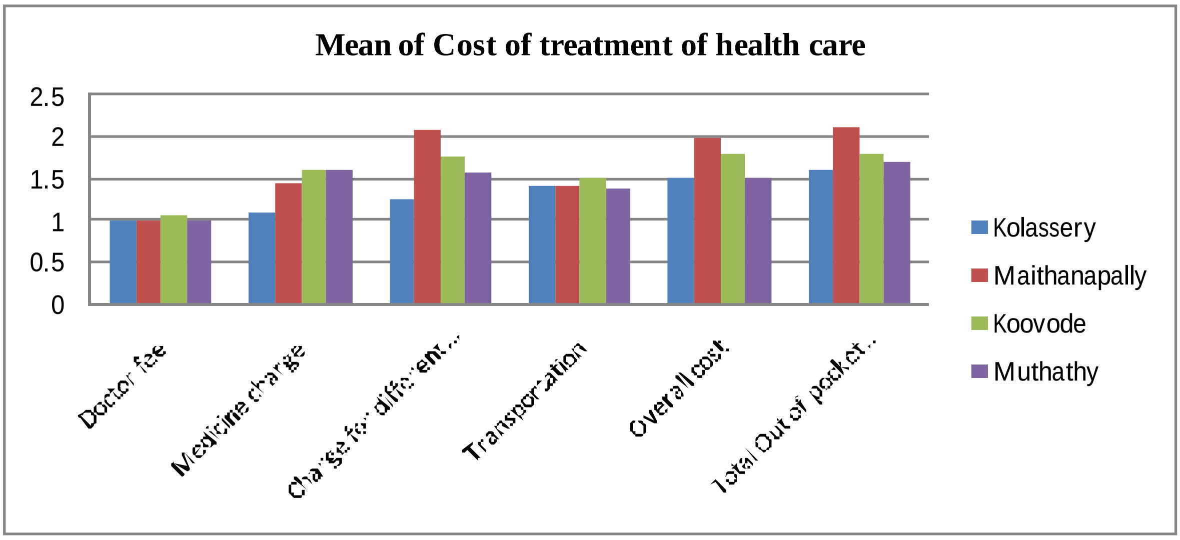
The results indicate that Immunization and MCH programmes schedule and Conducting Different Health Awareness Programmes are most utilized services of selected UPHC.In the patient perception level, other services also utilized and they are satisfied.

Cost of treatment of health care:

The cost of treatment of health care influenced by the patient satisfaction which is analysed by Doctor fee ,Medicine charge, Charge for different tests, Transportation, Overall costand Total Out of pocket expenditure.

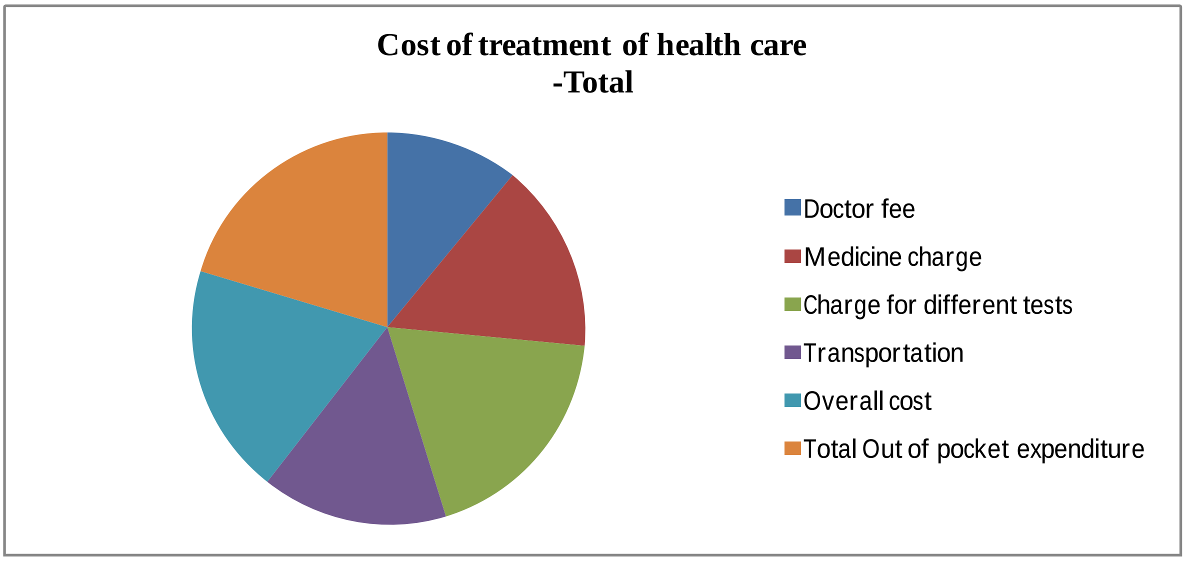
Figure: 1.10



Source: Field Survey,2019

Total Out of pocket expenditure is measured through fee for doctor, Medicine charge, Charge for different tests and Transportation. The mean value of Total Out of pocket expenditure is 1.700 which means that patient's willingness to pay for primary care which is affordable in their perception level.

Figure: 1.11



Source: Field Survey,2019

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Conclusion

This paper has examined the quality and efficiency of Urban Primary Health Centers in Kannur District. The findings reveals the fact that existing infrastructure facilities, services and staffs are adequate to meet the health needs of urban people in the patient perception level and patients are satisfied with health centre as a day-to-day caring institution which protect, maintain and improving health of the people to achieve health for all. Patients seem to be satisfied with the service experience on many dimensions of the service quality and efficiency. Health services delivery systems in selected UPHC are accessible, are of high quality and UPHC's have been able to deliver the health care services to the people in the urban area. But the number UPHC's functioning in each district is comparatively very low. As the Kerala is a rapidly urbanizing state in India and around 50% of population belongs to urban area, the improvement of the public healthcare system requires much thrust and care on urban primary health centers. This signifies the importance and need for more UPHC in Kerala in the context of rapid urbanization. To excel the public health care advancement and human development potentials of the state, it is important to introduce more urban health centers, urban health policies and health improvement programmes which improve healthcare delivery services, perception of the rock-bottom communities towards healthcare and efficient and timely delivery of healthcare among the most wanted and needy urban population.

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