



ACCESSIBILITY OF PRIMARY HEALTH CARE SERVICES: A CASE STUDY OF KADAKOLA PRIMARY HEALTH CENTRE IN MYSORE DISTRICT

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Abstract: *Primary Health Care centres are established with the intention to provide accessible, affordable and available primary health care to the common people at their door step, with specific focus on the rural and vulnerable sections. The success of PHC lies in the maximum utilisation of its services by the people. But many reports (NFHS-2, NSSO) and studies have pointed out that utilisation of PHC services is low both in rural and urban areas, as it is influenced by numerous factors. Unless these factors are identified and the measures taken, the goal of “Universal Health Care and Health for All” may not be achieved.*

In this background the present paper attempts to study the extent of utilisation of PHC services in rural areas and tries to track the factors influencing the accessibility of PHC services. For this purpose a Case Study of Kadakola PHC in Mysore district has been undertaken. For the sake of analysis, techniques like Dummy regression, Correlation and Chi-square have been employed. It was found that only 82% of people have access to PHC. The reason for not accessing PHC services in the study area are recognized as income level, distance and education level. The distance to the PHC is found as major determinant to the access of health care services from PHC, as it is found to be significant at 10% level.

Keywords: *Accessibility, Distance, Health Care Services, Kadakola, Primary Health Centre.*

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INTRODUCTION

Primary Health Care defined as an essential health care which should be based on practical, scientifically sound and socially acceptable method and technology (WHO & UNICEF 1978). It should be universally accessible by the individuals and the family in the community through full participation. It is to be made available at a cost which the community and the country can afford to maintain at every stage of its development in a spirit of self-reliance and self-determination (Roy, Somnath 1985).

The World Bank Organisation Alma-Ata Declaration defined Primary Health Care as incorporating curative treatment given by the first contact provider along with promotional, preventive and rehabilitative services provided by multi-disciplinary teams of health-care professionals working collaboratively (<https://ama.com.au/position-statement/primary-health-care-2010>).

PHC is the first level of contact of the individuals, the family and the community with the National Health System, bringing health care as close as possible to where the common people live and work.

Access to Medical services has historically been used as a measure of a fair distribution. The concept of equality of access to health care is a central objective of many health systems. It implies that individuals should be given equal opportunity to use health services without regard to other characteristics such as their income, ability to pay, ethnicity, or area of residence (Sundar, 2009).

“Access” word itself created much perplexity about its meaning and measurement; In this regard many discussions were held and numerous definitions were proposed such as Access as Utilization of healthcare, Access as Maximum Attainable Consumption of Healthcare and Access as Foregone Utility Cost of obtaining Healthcare and so on. But it was found that access in terms of a utilization of healthcare is the most frequently used definition of equal access in empirical studies (Ibid).

REVIEW OF LITERATURE

Põlluste, Kallikorm (2011) in their cross-sectional study titled “Satisfaction with Access to Health Services: The Perspective of Estonian Patients with Rheumatoid Arthritis” explained the possible determinants of satisfaction with access to health services in patients with rheumatoid arthritis (RA). The results demonstrated that Estonian RA patients are satisfied



with their access to health services. Factors that had a negative impact on satisfaction included pain intensity, longer waiting times to see the doctors, as well as low satisfaction with the doctors. Transportation costs to visit a rheumatologist and higher rehabilitation expenses also affected the degree of satisfaction. Patients who could choose the date and time at which they could visit the rheumatologist or who could visit their “own” doctor were more likely to be satisfied than patients whose appointment times were appointed by a healthcare provider. In addition, the satisfaction with one’s Family Doctor and rheumatologist played a significant role in people’s satisfaction with their access to health services.

The study by **Nteta, et.al.,(2010)** investigated the accessibility and utilization of the primary health care services in three community health care centres in the Tshwane of the Gauteng province, South Africa. It showed that in terms of distance, the clinics were accessible as most of the participants lived within 5km of such a facility, and the Tuberculosis (TB) clinic was the most frequently visited service. Further it stated that long queue, lack of equipments, staff shortage, slow service delivery and negative attitude of health care staff were major constraints in utilization of Community Health Centres.

Krajewski, Hameed, et.al., (2009) in their paper “Access to emergency operative care: A comparative study between the Canadian and American health care systems” tried to determine the differences in access to emergency operative care between Canada and the United States. The results suggested that access to emergency operative care is related to Socio Economic Status (income) in the United States, but not in Canada. This difference could result from the concern over the ability to pay medical bills or the lack of a stable relationship with a primary care provider that can occur outside a universal health care system.

DeVoe, Baez’s (2007) study “Health Care: Typology of Barriers to health care access for low-income families” was designed to identify the barriers faced by low-income parents when accessing health care for their children and how insurance status affects their reporting of these barriers. Result showed that families reported 3 major barriers i.e., lack of insurance coverage, poor access to services, and unaffordable costs.

Nair, Thankappan, Vasan (2004) in their paper “Community Utilisation of Subcentres in Primary Health Care--An Analysis of Determinants in Kerala” tried to identify the



determinants of utilisation of subcentre services. It found that about 30 per cent of the beneficiaries utilized services of the subcentres during the reference period. And the district in which a subcentre was physically present had highly correlated with its utilisation.

The study on “Distance and Health Care Utilization among the Rural Elderly” by **Nemet, Bailey** (2000), explored the relationship between distance and the utilization of health care by a group of elderly residents in rural Vermont. The results confirm the idea that increased distance from provider does reduce utilization; they strongly suggest that distance to provider is a surrogate for location in a richer web of relations between residents and their local communities.

The above literature review confirmed that the utilisation of health care services is influenced by a number of factors such as income level, distance, location of centre, high cost, medical staff, infrastructure, insurance coverage and so on. In this regard the present paper attempts to study utilisation pattern of PHC services and the factors influencing the accessibility of PHC services in rural area.

OBJECTIVES OF THE STUDY

1. To investigate the accessibility and utilisation Pattern of Primary Health Care services in Study area.
2. To identify the factors influencing the accessibility of Primary Health Care centres in rural area.

HYPOTHESES

1. PHC services are better utilised by the people in the place where it is situated or physically found.
2. Distance is a significant factor influencing utilisation of PHC.

SAMPLING

By using simple random sampling method 50 individuals were interviewed respectively in four subcentres of Kadakola PHC. Also informal discussion was made with the Medical officer and Auxiliary Nurse Midwives and other staff of the PHC to know the current status of PHC and its history.

DATA COLLECTION

The present study is purely based on primary data. The data is collected from well structured questionnaire cum schedules, where questions were asked about Age, Average



income, Education, Awareness about PHC and Government services, Distance to PHC and other issues. In order to make the study more representative, an attempt was made to interview the individuals randomly from all the four subcentre areas, namely Kadakola, Mandakalli, Sindhuvalli and Byathalli comes under Kadakola PHC coverage.

TOOLS FOR ANALYSIS

Along with Cross tab, Custom tables, Bar and Pie chart, Correlation, Chi-Square for independence and Dummy regression technique have been used to analyse the collected data.

BACKGROUND OF STUDY AREA

Kadakola is a village in Jayapura hobli¹ of Mysore taluk² in Mysore district of Karnataka state. It is about 15 km away from Mysore city. It is also recognised as an important Industrial Development Area (<http://www.onefivenine.com/india/villages/Mysore/Mysore/Kadakola>).

The present study is related to Kadakola PHC, which is physically found in Kadakola village. It has a history of 20 years. It was upgraded to 24*7 PHC in the year 2010 and recognised as number 1 PHC in Mysore Taluk.

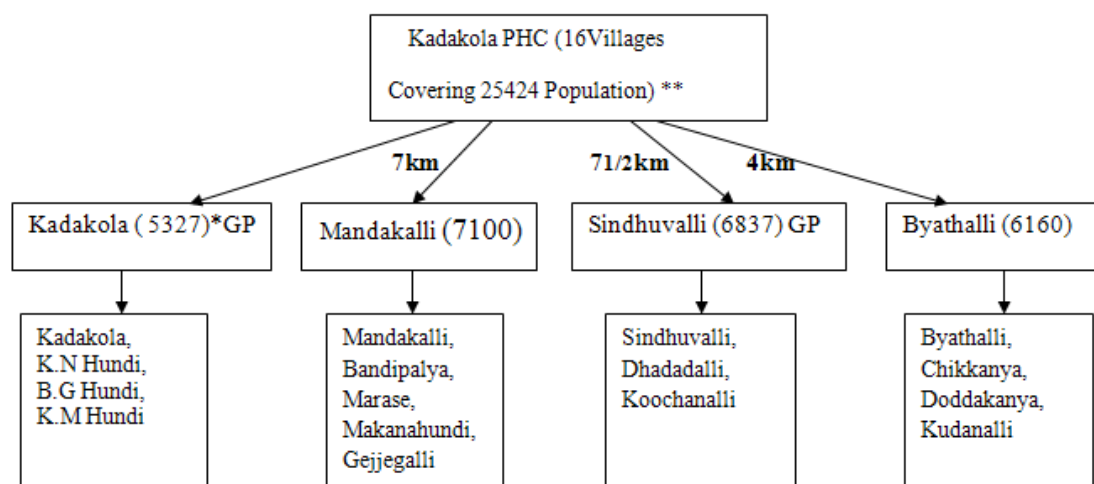


Figure 1: Structure of Kadakola PHC

Note: **Approximate figure

*As on 2001 census

GP³= Gram Panchayat

() Figures in brackets indicates population

¹ Hobli is a cluster of adjoining villages administered together for tax and land tenure purpose. Each hobli consists of several villages and several hoblis together from a taluk.

² Taluks are administrative blocks within districts which consist of towns and villages.

³ GP is local self-government at the village level. It is the foundation of the Panchayat system in India.



LIMITATION OF THE PRESENT STUDY

The data was collected in the month of February 2013; the response of the individuals may vary according to the time and place. Responses from the individuals have a time bound of one year. Sample size is only 50 which may not be sufficient to universe to assess the accurate and actual results.

RESULTS AND FINDINGS

Table 1: Demographic Profile of Respondents

Sl. No	Profile variables	Male	Female	Total
	A. Age			
1	18-37	6 (26.1)	18 (66.7)	24 (48.0)
2	38-57	8 (34.8)	8 (29.6)	16 (32.0)
3	58-77	9 (39.1)	1 (3.7)	10 (20.0)
Total		23 (100)	27 (100)	50 (100)
	B. Education			
1	Illiterate	7 (30.4)	11 (40.7)	18 (36.0)
2	< 7 th std	3 (13.0)	3 (11.1)	6 (12.0)
3	7 th -10 th std	7 (30.4)	10 (37.0)	17 (34.0)
4	PU (12 th std)	3 (13.0)	2 (7.4)	5 (10.0)
5	Above PU	3 (13.0)	1 (3.7)	4 (8.0)
Total		23 (100)	27 (100)	50 (100)

Source: Primary Survey

The table1 reveals that, out of 50 respondents 23 i.e., 46% are Female and 27 i.e., 54% are Male. Greater variation is observed in the composition of age of respondents with, 24(48%) belong to 18-37 age group, highest among the three group. 16 (32%) belong to 38-57 age group and a few i.e., 10 between 58 to 77 age group. Regarding the educational level the table reveals that 36 % i.e., 18 of respondents are Illiterate and 64% (32) are literate. It found that majority of the literate respondents i.e., 17 have completed their schooling between 7th to 10th class (higher secondary schooling) and a very few had completed college education and above.

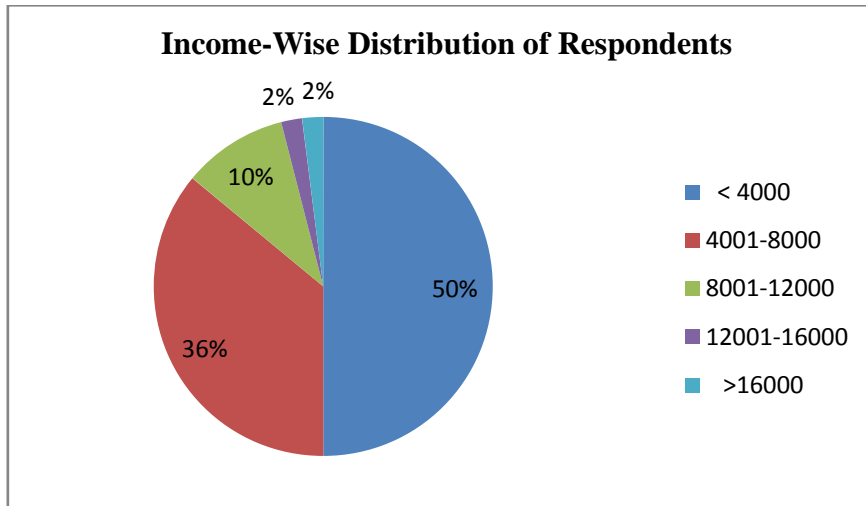


Figure 2: Income-Wise Distribution of Respondents

Source: Primary Survey

The figure (2) shows that 25 (50%) out of 50 respondents belong to below 4000 income group category. 36% and 10% of the respondents were under 4001-8000 and 8001-12000 income group category respectively. The 12001-16000 and above 16000 income category had only 1 respondent in each of them.

Table 2: Awareness on Primary Health Centre

		Aware of PHC		Total
		Not Aware	Aware	
Gender	Male	7 (31.8%)	16 (57.1%)	23 (46.0%)
	Female	15 (68.2%)	12 (42.9%)	27 (54.0%)
Total		22 (44.0%)	28 (56.0%)	50 100.0%

Source: Primary Survey

Table 2 shows that out of 23 male respondents 7 i.e., 31.8% and 15 i.e., 68.2% out of 27 female respondents were not aware of the word PHC, with 16 of males and 12 of the females being aware of the word PHC. The aggregate figure reveals that 28 respondents out of 50 i.e., 56% were aware about PHC word. And also found that 44% i.e., 22 of the respondents not even heard the word Primary Health Centre and they use to identify them as Government Hospital.



Table 3: Awareness on Government Health Programmes

		Aware of govt programmes		Total
		Not aware	Aware	
Gender	Male	7 (46.7%)	16 (45.7%)	23 (46.0%)
	Female	8 (53.3%)	19 (54.3%)	27 (54.0%)
Total		15 (30.0%)	35 (70.0%)	50 100.0%

Source: Primary Survey

In the Table 3, a different pattern was observed relating to the awareness about the government health programmes when compared to PHC awareness between gender. It was found that out of 35 respondents 19 (54.3%) belong to female who have an information (Aware of) on Government health programmes such as 108 services, Madilu Kit, Janani Suraksha Yojana and Prasuthi aaraike initiated by Government of India under National Rural Health Mission 2005 programme. This was observed because majority of the women in the study was belonged to 18-37 age group who got benefits from the above programmes during their maternity time.

Table 4: Access to Primary Health Centre

		PHC		Total
		not visited	visited	
Gender	Male	5 (55.6%)	18 (44.0%)	23 (46.0%)
	Female	4 (44.4%)	23 (56.0%)	27 (54.0%)
Total		9 (18.0%)	41 (82.0%)	50 100.0%

Source: Primary Survey

The above table 4 indicates that major users of PHC are females, which comprises 23 respondents (56%) out of 41 users. It was found that most of them visited PHC for Maternity or Pregnancy check-ups (Preventive Care).

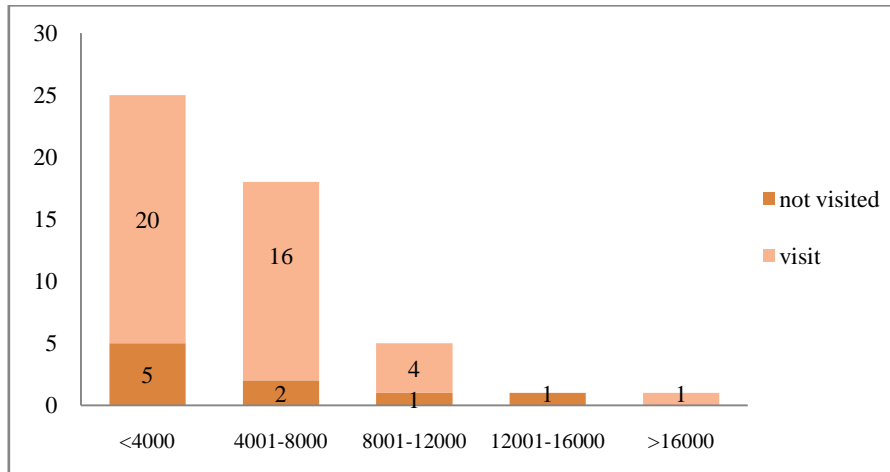


Figure 3: Access to PHC with Income levels

Figure 3 shows that out of 25 interviewed from <4000 income group 20 (80%) are reported as a users of PHC services, followed by 88% in 4001-8000 and 80% in 8001-12000 income group. It was found that major users of PHC were the people whose income is between 4001-8000. The result supported the findings of the previous studies (Ram RE & Datta BK 1976; Ghosh BN & Mukherjee AB, 1989; Ray SK et al., 2011) that utilisation of PHC services is high in lower income groups than the higher income groups.

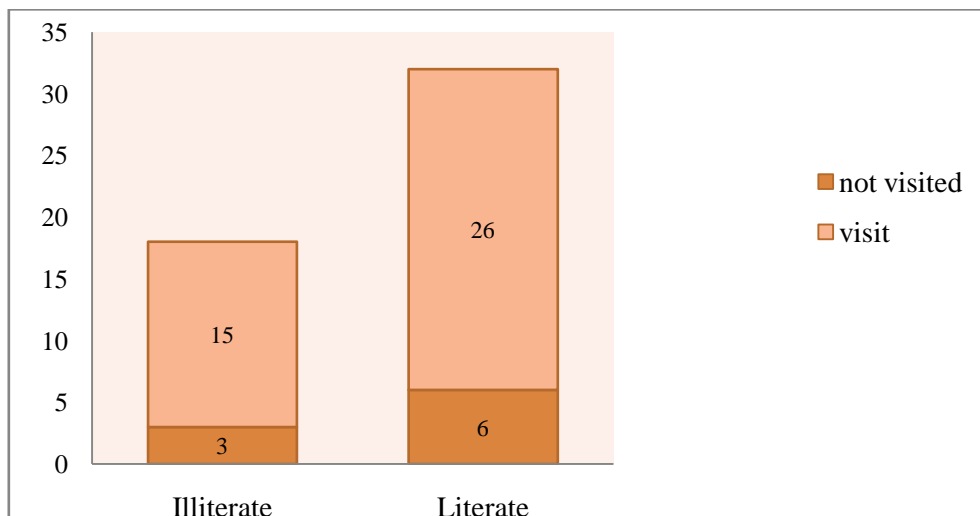


Figure 4: Access to PHC with reference to Education

The above figure 4 reveals that out of 18 illiterates 15(83%) are utilising PHC services, on the other hand literates accounts only 81% (26 out of 32). Due to less difference in the utilisation percentage no such significant difference is identified between illiterates and literates.



Hypotheses testing

H₁: “PHC services are better utilised by the people in the place where it is situated or physically found.”

Dummy Regression

$$Y_i = b_1 + b_2 D_{1i}$$

Y_i = No. of time Visited to PHC in the last year

D_1 = 1 for Kadakola, 0 otherwise

$$Y_i = 8.956521739 + 1.0805152298D_1$$

$$t = 3.850941747 + 0.341393592$$

$$(0.000348097) * (0.734297329) *$$

Where * Indicates the p values.

The regression result shows that, the mean visit to PHC in Kadakola is about 10 times (8.95+1.08) in a year which is 1time greater than other region. The estimated coefficient of Dummy is not statistically significant, as its p value is 73 percent. Therefore we do not reject the Null hypothesis which states that the Utilisation of PHC services in other region is as same as PHC located place.

H₂: Distance is significantly influencing on the utilisation of PHC.

The Pearson Chi-square value 5.556 with 0.062 P (P<0.1) value indicated that utilisation of PHC is significantly influenced by distance (access to PHC and distance are dependent). The dummy regression for distance (very near, little far, far)also provided the similar result that utilisation of PHC differs between distances and also it revealed that the mean visits to PHC significantly differ between very near and far group (P< 0.1)i.e.,12 and 5 times mean visit per year respectively. It supported the earlier results that negative association between utilisation of PHC and Distance.

CONCLUSION

Utilisation of health care services has become one of the great concerns in the area of equitable distribution of health services. In this regard the present paper made an attempt to study the utilisation pattern of Primary Health Centre services in rural area in form of Gender, Education, Income and Distance. It was found that in the study area 82% people are utilising PHC services. The results support earlier findings on relationship between



Utilisation of PHC service and Education level, Income and Distance (NFHS-2, NSSO, Ghosh.BN and others).

The study identified negative correlation between education level and awareness on government programmes. It was found that utilisation of PHC is negatively associated with education level, income and distance. The distance was found to be the only statistically significant determinant. The study findings also supported by the reasons sated by the non users of the PHC services that even though the Kadakola PHC is situated just beside the highway respondents find longer distance, poor road and transport facilities as major constraints in their accessibility.

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