

ORIGINAL

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HEALTH FACILITIES (BHUS)



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ABSTRACT..... ayaz@iimc.edu.pk ayazbhai@isb.comsats.net.pk **Objective:** To measure the distance of villages from the facility (BHU) and to analyze the geographical location, Pattern of Access and health facility utilization. **Study Purpose:** To improve the health status of community, by improving the geographical patterns of access and health facility utilization in Pakistan and to provide necessary information to policy makers, planners and health care providers for improvement of health facility utilization in Pakistan. **Study Design:** A cross sectional study. **Setting:** At Union Council Gali Jagir, Tehsil Fateh Jang, District Attock. **Period:** From 15 Nov 1999 to 31 Dec 2000. **Material & Method:** Measurement of the distance from the villages to the health facility and the facility record was reviewed to assess the utilization pattern by the village population. Information about mode of travel, time for travel and cost of traveling was collected by the key informers. **Results:** 22% of villages and 23% of population was situated at a distance of 3km from the BHU. 33% of villages and 30% of population were living within 5km. 67% of villages and 70% of population was situated at a distance of more than 5km from BHU. The overall health facility utilization of BHU Gali Jagir is 8.34%. **Discussion:** The health facility utilization decreases as the distance increases. Geographical accessibility up to a distance of 3km is a new finding in the study. We have noted that majority of the villages and populations, 67% villages and 70% population is uncovered and 33% villages' and 30% population is under served. **Conclusion:** The study has identified the gaps in the geographical access patterns that an accessible distance is 3km instead of 5km (as accepted by world health organization). Distance of 3km was accessible for seeking care from a public health care facility. The over all health facility utilization was 8.32 %, which was alarmingly low.

Key words: Basic Health Unit. Health facility Utilization. Pattern of Access

INTRODUCTION

One of the five most important principles of PHC is the universal coverage of the population or people's access for the health services. Accessibility "implies the continuing and organized supply of care that is

geographically, financially, culturally and functionally within easy reach of the community". The geographical accessibility "means that the distance, travel time and means of transportation are acceptable to the community"¹. Vital disparities persist in the capability of

the world's nations to provide a basic level of needed services to enhance the life chances of those who are the most vulnerable, the poor, the sick and the disadvantaged. The reality of these deep human scars is immense. In the context of these wide spread disparities within and among nations, the percentage of the population that does not receive health services on a permanent and continuous basis is on the increase and their problems are becoming more serious. It is compellingly urgent to develop action strategies that strengthen the access to health².

GLOBAL SITUATION

In United Kingdom, the National Health Service aims to offer fair access to health services based on need alone, irrespective of where people live. The National Health Service in the UK has actively persuaded policies to reduce geographical inequalities for the last 50 years. To move further towards geographical equity will require new policies. These might include more effective transport arrangements for the people³. In the UK, 97% of the population is registered with a general practitioner, and 90% of all patients are seen at local health facilities. In Portugal, 80% of the population is registered with general practitioners at local health centers. In Chile, health centers attend to 97.8% of all births and 97% of all out patient consultations⁴. Access and utilization is a problem of the under developed countries where the health resources are limited and the health needs are unlimited. In different countries like Egypt, Cameroon, South Sudan, Uganda, Tanzania, Mali, Yemen, and Malawi from 1978-1992, where 95 percent of the population lived within reach of a health care facility with the exception of Egypt, none of the others reached beyond a potential coverage of 35 percent⁵. In Zambia, 21% of population lives more than 12 km from a health center. Distance is clearly an important factor in utilization of health services. In Uganda the average number of out patient visits declines by 60% for every two miles⁷.

In Pakistan, need for a change is acute because we are facing more problems as compared to the developed world. We are facing the problems of lack of resources

along with their inefficient use and on the other hand under - utilization of health services⁶. More than 5200 BHUs and RHCs have been established all over the country for the provision of PHC to the people⁷. But the problem of universal coverage and accessibility is still a dream. With huge expenditures and passage of twenty-two years only 33% of the rural population is in access of 5km. There are also significant provincial differences with access, being better in Punjab and worst in Sind. The use of Government health care services in Pakistan is low and does not seem to be improved with social action program. In PIHS a Government health practitioner was consulted in 20 % of cases⁸.

The Under utilization of BHUs and RHCs is usually due to inaccessibility, and within the inaccessibility the geographical patterns of access is of particular importance. The poor state of public health care accessibility and utilization begs the question of how the services could be made accessible and acceptable. Perhaps the time has come to review alternate options for delivery of publicly financed basic health care in Pakistan.

The problem of geographical inaccessibility of the health facilities for the population is due to the long distance to the health facility, lack of roads, and lack of transport facilities. Other contributing factors are social and financial inaccessibility further potentiated by poor quality of care. All these factor aggregate and lead to under-utilization⁹. In many cases distance is measured in a linear way without analyzing the other contextual factors such as road quality, mode of transport, availability of transport, frequency of transport availability, time for traveling, and cost of traveling. In this study I want to look at the Geographical patterns of access and health facility usage in Union council Gali Jagir by viewing the above-mentioned factors.

METHODS AND MATERIALS

This was a cross sectional survey for measurement of distance of villages and populations from the BHU Gali Jagir District Attock carried out from 15 November 1999 to 31 December 2000. Review of facility record to assess

the utilization pattern by the village population, information from key informants about mode of travel, time for travel and cost of traveling. The final data was then analyzed in the SPSS 10.0 for windows, Microsoft EXCEL.

The objectives of the study were;

1. To measure the distance of villages (Distance by dirt path & distance by public transport) from the facility (BHUs) in union council Gali Jagir.
2. To analyze the geographical location, Pattern of Access and health facility utilization. The study was comprised of the following steps

I). DISTANCE MEASUREMENT

Measurement of distance from the village (all villages) to the health facility. This included measurement of distance by dirt path and public transport, by odometer from the village to the health facility. The distance was measured from the main gate of BHU to the mosque of the village.

II). MODE OF TRAVEL

Information regarding Health facility usage, mode of travel, availability of transport, frequency of transport availability, time for travel and cost of travel was collected from the key informants of every village, which was collected through structured questionnaire.

III). GEOGRAPHICAL LOCATION, PATTERNS OF ACCESS AND HEALTH FACILITY UTILIZATION

Facility-based review of services for availability of staff, drugs and health facility utilization (from updated community chart, OPD record, Attendance record, stock register medicine for the year 1999-2000). Health facility utilization was analyzed in relation to distance, patterns of access, and modes of travel.

RESULTS

(1) DISTANCE OF VILLAGES

Two of the villages were situated at foot distance of 1 and 3 km from the BHUs. Three villages were situated

within 5 km and six village were situated at a foot distance of more than 5 km (Range 6-14km) from the BHUs. The mean distance by foot from the villages to BHUs is 7km. (Table 1 and II). Two of the villages had no Public transport for the BHUs, so there was no public transport distance for these two villages. Seven villages had public transport to the BHUs. The public transport distance from the village's to BHUs range from 8.9km to 22 km. The mean public transport distance from the villages to BHUs was 10.9 km.

Table-I. Distance (in km) from villages to BHU and higher-level health facility

Name of village	By foot	Public transport	Public transport Fateh Jang
Gali Jagir	1.0	NA*	16.0
Nakodar	3.0	NA*	15.0
Pind Fateh	5.0	12.2	15.0
Aroria	6.0	11.2	20.0
Sharai Bahadar	6.0	8.9	15.0
Lani Wala	7.0	10.0	16.0
Ismail	9.0	16.5	21.5
Pagh	12.0	17.3	22.4
Dewal	14.0	22.0	27.0
*NA Public transport not available			

(II) MODE OF TRAVEL

The two villages which were situated at a foot distance of 1 and 3 km from BHU were devoid of public transport. Among the rest of seven villages having public transport, only one of them was utilizing the BHUs and the rest were using higher level facility at Fateh Jang. Mean cost of travel by public transport to BHU was 5.6 rupees and mean cost of travel to Fateh Jang was 6.1 rupees. Mean cost of travel by public transport to Fateh Jang is 8% more than the cost of travel to BHU. Mean time for travel to BHU by public transport was 32 minutes and for Fateh Jang was 40 minutes. Mean time for travel by public

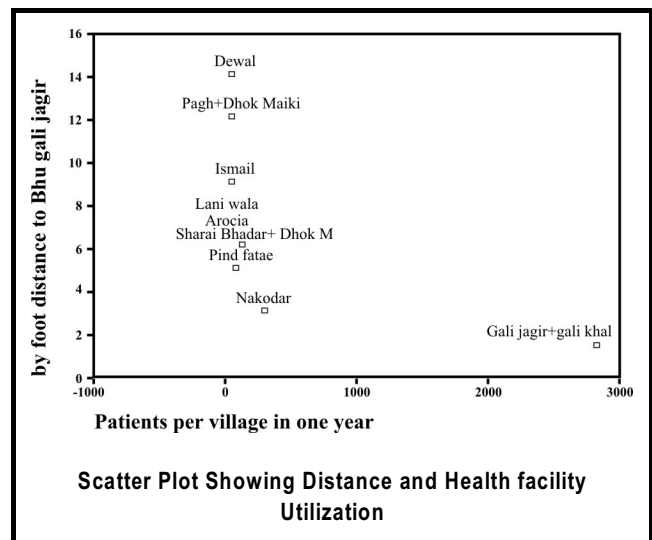
transport to Fateh Jang is 20% more than BHU. Public transport distances for higher level facility (Fateh Jang) are longer, more costly and time consuming as compared to BHUs. The public transport was available for the Fateh Jang every hour and for the BHU it was available at an interval of three hours.

(III). GEOGRAPHICAL LOCATION, PATTERN OF ACCESS AND HEALTH FACILITY UTILIZATION

The village which was situated at a foot distance of one km its utilization rate was 1.2 visits per person per year, 2nd village which was situated at a distance of 3km its utilization rate was .25 visits per person per year. The patients of these two villages have no public transport. The villages which were situated at distance of more than 3KM BHU utilization by them was quite low ranging from .01 to .04 visits per person per year (the required is 3 visits per person per year) even though public transport was available to them. The utilization is falling rapidly as the distance is increasing from 1km to 3km and at a distance of 5km the utilization rate is negligible. Which reflects that by foot pattern of access is the best access for villages and populations living with in 3km. Maximum utilization was at a distance of 1km (though less than required) and when the distance increases just more than 3km the utilization reaches to zero.

In union council Gali Jagir Tehsil Fateh Jang District Attock, 22% of villages and 23% of populations were situated at a foot distance of 3km from the BHU, 33% of villages and 30% of population were living within 5km. 67% of villages and 70% of population was situated at foot distance of more than 5km from BHU. 22% of the villages don't have public transport, and 78% of the villages have public transport for both BHU and Fateh Jang. Health facility utilization was 38% if the foot distance is less than 1 km, 29.6% if the distance is less than 3 km and 22.4% if the distance is less than 5km. The overall health facility utilization of BHU Gali Jagir is 8.34% during the year 1999-2000. Here the BHU was supposed to provide coverage to 33% of villages and 30% of population as they are situated at a distance of 5km (one hour walking distance). But the BHU is covering up to a distance of 3km that is 22% of villages

and 23% of population.



(IV).HEALTH FACILITY USAGE BY GENDER AND AGE

All the patients who attended the BHU during the year 1999-2000 (3785 patients) were analyzed for age, sex, disease and village from which they came. Maximum health facility utilization was by the age group 15-44 years. Forty seven (47%) of the total facility utilization was by this age group. Utilization by this group may be due to better accessibility by this age group, because this group is in better position to go by foot. Among the age group 15-44 the greater utilization is by the females possibly because of that women in this age group are in reproductive age, and they suffer more frequently by the health problems than males. Utilization was also more by females in the age group 1-4, 5-14 years. Health facility was utilized more by males than females at two extremes of life that is < 1year and >45 years of age.

Majority of villages and populations are at a distance from where they are not in access with the BHU. Only 33% of villages and 30% population are at a distance <5km. The BHU is accessed and utilized by villages and populations situated at a distance <3km. Villages and populations who are totally out of access with BHU are unserved. Therefore the villages and populations in the union council Gali Jagir are either under served or un-

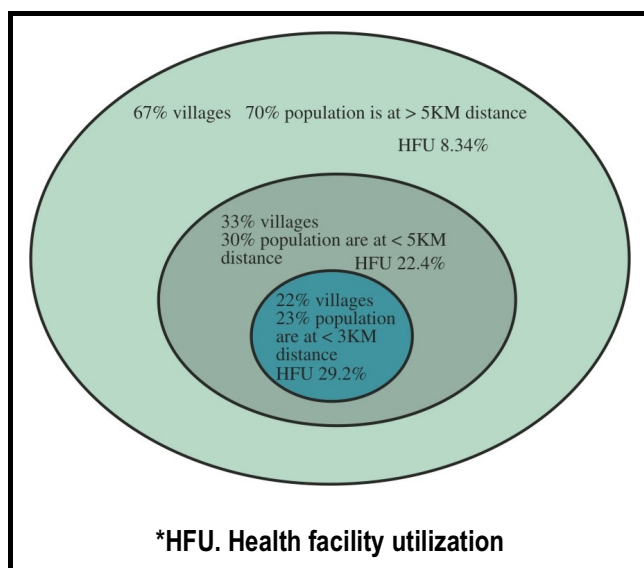
served.

Table II Distance, Coverage, Utilization rate and health facility utilization

Distance by foot in km	Population	Patients in one year	Utilization rate/person/year	Health facility utilization % age
< 1	2401	2780	1.16	38.6
< 3	3444	3015	.88	29.2
< 5	4526	3038	.67	22.4
< 7	7782	3124	.40	13.4
< 14	15124	3785	.25	8.34

Table III. Health facility usage by gender and age

Age group	Population	Population %	Patients	Utilization %	Utilization % by females	Utilization % by males
< 1	334	2.20	123	3.2	1.4	1.8
1-4	1523	9.80	432	11.4	5.9	5.5
5-14	3879	26	757	20	12.6	7.4
15-44	6477	43	1803	47.4	25.2	22.2
45+	2911	19	668	18	6.2	11.8
Total	15124	100	3785	100	51.3	48.7



DISCUSSION

In this study it is seen that 67% of villages and 70% of population was situated at a by foot distance of more than 5km, which is quite far as the universal coverage and accessibility is concerned. Populations at by foot distance of 3km have utilized the health facility, and populations at distance of more than 3km had not utilized the facility. The health facility utilization decreases as the distance increases which is according to the previous studies already conducted and mentioned in the literature review, but geographical accessibility up to a distance of 3km is a new finding.

The villages and populations with available public transport were not utilizing the BHUs but they were going to higher level facility, even though the distance, cost,

and time for travel is more. Possible reason may be the distance more than 3km (by foot distance) of villages, availability of public transport at larger intervals, non-availability of public transport in the odd hours, limited service availability at BHU and inconvenience in case of referral. The important point explored during the study is that only availability of public transport is not sufficient but how frequently the public transport is available is more important.

The study also explores that by foot pattern of access to BHU is adopted by the villages and population living with in a distance of 3km. By foot pattern of access is the best access up to a distance of 3km because the health facility utilization is maximum when by foot distance is less than 3km, When the distance is more than 3km and the people have to go on public transport, they prefer to go to a higher level facility. The study provides evidence that when the health facility is in access of by foot distance < 3km the other factors of under use or non-use can be improved but when all the services are available and they are not in access of population all goes in vain.

Construction of one BHU in every union council without assessing the Geographical patterns of access, coverage, modes of transport, frequency of availability of public transport will not solve the problem of universal access and coverage, and ultimately the goal of Health For All. In country like Pakistan it is not possible to provide public transport to every village or to construct a BHU at a distance of every 3km. The study raises the question that at what level basic health services be strengthened and how the access and coverage can be improved. The possible ways and their pros and cons are still to be discovered.

CONCLUSION

The study has identified the gaps in the geographical access patterns that a distance of 5km was not accessible to the rural populations, but a distance of 3km was accessible for seeking care from a public health care facility. By foot pattern of access was the best up to a distance of 3km. 23% of population had access to the health facility and within this population health facility

utilization was 29.2%. 30% of population was under served and 70% of population was un-served even if the accessible distance of 5km was taken into account. The over all health facility utilization was 8.32 %, which was alarmingly low. Transport availability is important but how frequently that transport is available for a health facility is more important. Diseases like ARI, diarrhea and malaria are still the common problems of rural area. The males and females equally utilize the health facility and there was more utilization by females in the age group 15-44 and by males in the age group <1 and >45. The study does not represent the entire District, Province or country; however this can serve as first milestone for further studies on this topic.

RECOMMENDATIONS

Recommendations are of two types,

(A) FOR CONSTRUCTION OF NEW HEALTH FACILITIES

For construction of a health facility a field and spatial survey should be conducted to see the geographical accessibility of the population for the facility.

A health facility in the rural area should be established in an area where it could provide maximum coverage and accessibility.

Pattern of access should be determined and availability and frequency of availability of transport should also be considered.

(B) FOR EXISTING HEALTH FACILITIES

The emphasis should be on improving the use of existing health facilities because large net work of health facilities has already been established which is underutilized. For the improvement;

Survey on National basis for coverage and accessibility of Primary health care should be conducted to determine the uncovered areas and populations. These uncovered areas should be defined for future coverage through public or private sector.

Private practice should be licensed and license should be issued for those areas, which are uncovered and inaccessible to routine PHC.

Provision of transport facility to the populations living away from health facility through community participation and intersectoral co-ordination.

Preventive health services at village level should be strengthened through Prime Minister Program.

Services and supplies be ensured at the BHU level and strict referral system should be made functional from the village to BHU through LHW and then from BHU to RHC or THQ where the required Facility is available.

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**If a man could have half
his wishes; he would
double his troubles.**

Benjamin Franklin