



Contents lists available at BioMedSciDirect Publications

International Journal of Biological & Medical Research

Journal homepage: www.biomedscidirect.com



Original Article

Distance as a Determinant of Health Services Utilization by the Community Based Health Insured People

G.M. Venkatesh*, Siddharthan. S Metri

Asst Prof, Dept of Community Medicine, Hassan Institute of Medical Sciences, Hassan

ARTICLE INFO

Keywords:

Community Based Health Insurance,
Specialist Clinic,
Distance,
Health Care Utilization

ABSTRACT

Objective: This research focuses on the accessibility of health services to the insured population in the district. Most of the District is served by the medical college hospital situated in the epicentre of the district headquarter. The objective of the research was to determine if there is negative a correlation between frequency of insured in-patient visits to specialist-clinics at SJCH and the patient's geographical distance which reflect inequality of health services. **METHOD:** A pre-tested questionnaire was developed and evaluated on 2398 beneficiaries. **RESULTS:** Majority of beneficiaries were females in the age group 21-30 years with Obstetrics and Gynaecological complaints and the data demonstrates that distance is negatively correlated ($r = -0.89$) with the number of visits to specialty clinics. **Conclusion:** The research shows that greater distance has a clear cut negative influence on health service utilization even among the insured, and results in inequality in access to health service by peripheral populations.

© Copyright 2010 BioMedSciDirect Publications IJBMR -ISSN: 0976:6685. All rights reserved.

1. Introduction

A National Health policy enacted in 2002 obligates to increase access to the decentralized public health system by establishing new infrastructure in deficient areas, and by upgrading the infrastructure in the existing institutions, to ensuring a more equitable access to health services across the social and geographical expanse of the country [1]. Physical access is a major barrier to both preventive and curative health services for India's large rural population (>70%). The number of government hospital beds in urban areas is more than twice the number in rural areas [2], and the rapid development of the private sector in urban areas has resulted in an unplanned and unequal geographical distribution of services [3]. Although urban concentration of facilities may encourage economies of scale, the distribution of services is an important factor affecting equity in health care, primarily as many vulnerable groups tend to be clustered in areas

where services are scarce. As physical distance to facilities is a key determinant for access [4-6], overcoming this through outreach or better transport, roads and communication networks is important for reaching disadvantaged and physically isolated groups. Furthermore, physical access of services does not necessarily assure utilization since the costs associated with seeking care also preclude uptake, even when services are physically available. Studies in other countries have found that the main factors for inequality are distance, low socio-economic status, irregular transportation, and other demographic factors that impact on utilization of health services [7]. Ken et al [8] found in interviews with family practitioners that differences in levels of utilization vary and are a function of socio-economic and geographical factors.

The launch of National Rural Health Mission has strongly recommended that rural populations be covered by risk pooling mechanisms especially by community health insurance. The main objectives of this are to improve access to health care[6]. Most of the speciality care to the district population is served by the medical college hospital situated in the epicentre of the district headquarter. The objective of this research is to quantify the accessibility of health services by the insured population in the

* Corresponding Author : Dr. G.M. Venkatesh
Asst Prof, Dept of Community Medicine
Hassan Institute of Medical Sciences
Hassan
E.mail: ap3cmhims@gmail.com

district in terms of correlation between frequency of insured inpatient visits to specialist-clinics and the patient's geographical distance which questions can risk pooling mechanisms in isolation over come inequality in the distribution of health services.

2. Matereals and method

All patients insured by the 'yeshaswini' a Community health insurance that frequented five surgical speciality clinics at, SJCH Medical College Hospital, Hassan between June 2007 and May 2010.

Inclusion Criteria: Medical records from all 2398 patients who attended the inpatient specialist clinics during the study period were collected.

Exclusion Criteria: Records with incomplete information were excluded. Information was collected on their demographic information, presenting complaints, community based health insurance status and distance travelled from their homes to the Hospital. Data was collected on a predefined and structured questionnaire.

Data was analyzed in two stages: The 1st step of data analysis included descriptive statistics: frequency, percentage. The variables include, age, sex, and Visits to Specialist Clinics. In the 2nd step the distance from each town to SJCH Hassan was recorded and Correlated with the number of visits to the specialist clinic

3. Results

A total of 2398 insured patients visited SJCH Speciality clinics over a period of 3 years. Fifty five percent were in the age group 21-30 years (Table 1). Of these 80% were females (Table 2) and a large majority 65% of them were attending OBG clinics (Table 3). Thirty Five percent of the patients were from within 20 km radius as compared to 10% from greater than 40 km. Table 4 shows that as the distance increases the no of visits decreases and are negatively correlated ($r = -0.89$)

Table 1. Age distribution of the study population

Age group	Frequency	Percentage
0 - 10	20	0.8
11-20	158	6.5
21- 30	1340	55
31 - 40	240	10
41 - 50	320	13
51 - 60	180	7.5
61 - 70	140	5.8
Total	2398	100

Table 2. Sex distribution of the study population.

Sex	Frequency	Percentage
Male	479	20
Female	1919	80
Total	2398	

Table 3. Shows the Specialist Clinic Visits distribution of the study population

Age group	Frequency	Percentage
ENT	61	2.5
SURGERY	719	30
OBG	1578	65.86
OPHTHAL	20	0.83
ORTHOPAEDICS	20	0.83
Total	2398	100

Table 4. Distribution of 2398 visits of the study population as per Distance

Town	Distance from SJCH in Km	No. of Patients	Percentage
Hassan	20	859	35.8
Alur	27	456	19
Belur	30	240	10
C.R. Patna	32	319	13.3
H.N.Pura	34	117	4.8
Arakalagudu	36	148	6.2
Arasikere	42	160	6.7
Sakaleshpura	45	99	4.2

$r = -0.86$ Negative Correlation

4. Discussion

Previous research studies shows that in general, the distance from a person's home to the Hospital is one of the most important factors contributing to the level of utilization of Health care services. The purpose of this research was to test the hypothesis that distance to the specialist clinics in Hassan District is also a significant factor influencing the use of health care services by the insured people, measured by patient visits to specialist clinics at SJCH. This research shows inverse correlation between the distance of a town from Hassan and the visits to the specialist clinics at SJCH.

A study in UK by Hayness [9] found similar results, stating that distance was the main barrier to health service accessibility in the periphery; 80% of the populations living up to 15 km from the health centre are the main clients of the health services, significantly higher than those living over 50 km from the health centre. A later American study by Billi and Pahlinger[10] in the state of Michigan found that the optimal distance between home and clinic for optimal accessibility was no more than 16 km, while distances over 50 km constitutes a serious barrier to the accessibility of healthcare. This study's main limitation is that it only investigates possible linkages between utilization of specialist Hospitals by insured and independent variable related to distance. Correlation among the independent variables such as age, sex, socioeconomic factors was not carried out, thus it is still unclear whether difference will be found between the populations of two cities at the same distance from specialist Hospitals, but typed by a population with different sociodemographic characteristics.

5. Conclusion

This research aims to analyze the public health service utilization in a District, comparing accessibility within the periphery. The research shows that greater distance has a clear cut negative influence on health service utilization even among the insured, which shows risk pooling mechanisms in isolation cannot overcome inequality in the distribution of health services and utilization by peripheral populations. This information can help build public health system in the periphery that take into consideration the needs of the patient's, the specific localities, such as distance to health services, the socioeconomic level, and the size of the community.

Acknowledgement

The authors thanks the support of Ms. Adyasha Mohapatra, Ms. Anuradha mohapatra and Mr. Abhiram for their support in collecting the data.

6. References

- [1] Ministry of Health and Family Welfare: National Health Policy Document. New Delhi. Government of India, 2002.
- [2] CBHI. Health Infrastructure, National Health Profile (NHP) of India - 2008.
- [3] De Costa A, Al-Muniri A, Diwan VK, Eriksson B. Where are healthcare providers? Exploring relationships between context and human resources for health Madhya Pradesh province, India. *Health Policy*. 2009;93(1):41-47.
- [4] Lavy V, Germain JM. World Bank. Washington DC: World Bank; Quality and cost in health care choice in developing countries, 1994.
- [5] Acharya LB, Cleland J. Maternal and child health services in rural Nepal: does access or quality matter more? *Health Policy Plan*. 2000;15(2):223-229.
- [6] Ministry Of Health and Family Welfare: 2005: National Rural Health Mission: Mission Document. New Delhi: Government of India 2008
- [7] Glasgow N, Morton L. Critical issues in rural health. Blackwell; 2004.
- [8] Ken S, David J, Briggs B. Socio-economic and location determinants of accessibility and utilization of primary health-care. *Health & Social Care in the Community* 2001:9.
- [9] Hayness R. Bentham; Community hospitals and rural accessibility. Westmead, Farnborough: Teak.eld Ltd.; 1979.
- [10] Billi C, Pahlinger D. The effect of distance to primary care physician on health care utilization and disease burden. *Health Care Manage Review* 2007;32(1).