Does Size Matter in Choice of Hospitals? An Empirical Study in Kerala

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Abstract

A recent trend noticed in the health care delivery sector in Kerala is that many small hospitals are closing down. Since small hospitals are critical for accessible and affordable healthcare, it is important to understand the reasons for their closure. This research paper aims to find out if this closure is due to lack of customer preference for small hospitals or some other reason. The paper is based on a quantitative study that was conducted among consumers of healthcare in Kerala during April – May 2019. Chi square test was used in analysis of data. The findings of the study revealed that customers prefer small hospitals over big / corporate hospitals for treatment of both minor and major ailments. Chi square test also indicated that there is no difference in preference for health care providers across different income categories of households. The study concludes that it is not lack of customer preference that is driving closure of small hospitals. Since the small hospitals are a critical part of healthcare eco system in the country, the reasons for their closure need to be identified and addressed.

Key Words: *Healthcare, Hospital preference, Hospital size, Private hospitals, Small hospitals, Large / corporate hospitals.*

Introduction

In India, private sector plays a dominating role in healthcare delivery. Large majority of hospitals in the private sector are small hospitals. A trend noticed in recent times in the Indian healthcare sector is an increase in the number of large hospitals. While the large hospitals are fast expanding, small hospitals are closing down. Small hospitals are critical in ensuring accessibility and affordability of healthcare delivery and hence reasons for closure of small hospitals need to be understood. This paper attempts to understand if it is lack of customer preference that is leading to closure of small hospitals.

Review of Literature

India's healthcare spend is 1.35% of its GDP is the lowest in the world. Public health care delivery alone cannot cater to the health care demands of a growing population. This is where private participation in healthcare becomes relevant. Indians rely heavily on private providers for primary, secondary and tertiary care. Private health care accounts for 74 percent of the country's total health care expenditure (India Brand Equity Foundation Healthcare Report, 2015). According to NSS 75th round data, private sector accounts for 65.8% of treated ailments and 55.3% of hospitalizations. Report of Steering Committee of Health, Planning Commission, and Tenth Plan corroborates this by stating that private hospitals account for 82 percent of outpatient treatment and 52 percent of hospitalisations in India. Thus private sector plays a dominant role in healthcare delivery in India both in terms of expenditure and utilization. Taking specifically the case of Kerala, Kerala Health Accounts of the year 2013-14 states that private sector accounts for 4/5th of the total current healthcare expenditure of Rs. 24699 crores in the state. When it comes to utilisation, 55 percent utilised by private sector for inpatient treatment (Kerala Health Accounts, 2013-14) and 77 percent utilised private providers for outpatient care (Levesque et al, 2006).

Majority of the hospitals in the private sector are small hospitals. More than 80 percent of them have less than 25 beds. Average number of beds in private hospitals is 10 (Report of Steering Committee of Health, Planning Commission, Tenth Plan). A large majority of hospitals in private health care sector in India are run by one doctor (Hooda, 2015). Hospitals providing primary and secondary care are mostly owned and managed by doctors (R V Baru, 2006 & Muraleedharan, 1999). Middle class Indians rely heavily on small hospitals to meet their healthcare needs. IMAGE (IMA Goes Eco friendly - Indian Medical Association's waste management scheme in which 90 to 95 percent of private hospitals in Kerala are

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registered) estimates that close to 80 percent of the hospitals in Kerala are small hospitals (0 to 50 beds).

Many factors have contributed to the recent trend of increase in the number of large hospitals. In 2000, Indian Government allowed 100 percent FDI in hospital sector and this led to an increase in foreign investment in hospitals from Rs. 31 crores in 2001-02 to Rs.3995 crores in 2013-14 (Hooda, 2015). In 2000, hospital sector attracted 12.8 percent of the total foreign equity inflow health sector. This percentage increased to 25.5 percent in 2013 (Hooda, 2015). FDI worth US$ 5.25 billion was pumped into the hospital and diagnostic centers between April 2000 and June 2018, according to data from Department of Industrial Policy and Promotion (DIPP). All this led to growth of big hospitals and corporate chains in health care delivery system. The impact that all this had on the structure of health care delivery system in India is that large hospitals increased at a rate much higher than that of medium and small hospitals (Hooda, 2015). The Indian private hospital sector is shifting towards corporatization with the share of 'own account enterprises' (usually run by one doctor) declining during 2001-02 and 2010-11 period (Hooda, 2015). As a case in point, if we take Kerala the number of allopathic hospitals with in patient facility in 1986 was 1864. This increased to 1958 in 1995 and then fell to 1405 by 2004. Average number of beds in these years was 26, 34 and 41. From this, it can be concluded that smaller hospitals were replaced by large hospitals (T R Dilip 2008).

Research proves that concentration (only a few providers, without much competition) is happening across industries including healthcare sector. Concentration can eliminate competition - Kerala Association of Small Hospitals and Clinics (KASC) estimates that a thousand small hospitals closed down in the state since 2005. This reduced hospital beds availability by 5000. The association attributes competition from corporate hospitals for the closures. Lack of competition can lead to higher costs and inefficiencies in delivery (Sandhya S N, Pilassery 2017). Concentration in the healthcare sector can pull up healthcare costs - concentration in hospital markets is associated with higher prices. Findings from a 2010 analysis reveals that private-insurer payment for hospital stays in a highly concentrated healthcare market as San Francisco was around 75 percent higher than in the more fragmented Los Angeles market (Wessel, 2018).

A World Bank study revealed that in India 75 percent of health care expenditure comes from private households (OOP, out of pocket expenditure), 15.2 percent from the State Government, 5.2 percent from the Central Government, 3.3 percent from private employers and 1.3 percent from foreign donors. Given that a lion's share of health expenditure is OOP it is important that cost of health care delivery remains under control. In the absence of government regulations for cost control, competition in the sector is the only way to restrict health care delivery cost in India. If corporate hospitals dominate health care delivery it can lead to inequitable access to health care due to increased cost. Therefore it is important that small health care providers co-exist with big / corporate hospitals. In this context reasons for closure of small hospitals need to be studied. Patients are increasingly involved in making healthcare decisions as their healthcare costs keep on increasing (Corbin et. al. 2001). Patients are seen to switch hospitals even for non-clinical reasons (Munsuru, 2011). Therefore it has to be examined if closure of small hospitals is due to lack of consumer preference.

Research Gap

Despite the very important role played by small hospitals in healthcare delivery in India, private sector is not a widely studied sector (R V Baru, 2006). Studies on private healthcare sector in India are very limited (T R Dilip, 2008). These limited studies focuses more on statistical aspects as utilization of private sector for inpatient and outpatient care, distribution of doctors and beds in the private sector and profiling of hospitals in terms of type and size. There are very few studies on private healthcare providers in general and small hospitals in particular. Small healthcare providers that include small hospitals, nursing homes, clinics and dispensaries play a critical role in health care delivery. Of late their numbers are decreasing and there is no research till date that looks into the reasons for the same. This paper attempts to address that research gap.

Statement of Problem

Small hospitals are impacted by the emergence of large / corporate hospitals in the healthcare delivery sector in Kerala. Many of these small hospitals are closing down. The state of Kerala fares well in all health related social indices on account of a strong network of government and private hospitals in the state. As already mentioned, most of these private hospitals are small hospitals that are critical in delivering quality healthcare affordably. Therefore the reasons for their closure need to be understood. This paper tries to explore if it is lack of customer preference that is leading to closure of small hospitals.

Research Objectives

The objectives of the study can be stated as:

- To assess patient preference for small and large healthcare providers – based on type of ailment (minor ailments / major ailments) and across

income categories (annual household earnings of Rs. 2 lakhs to Rs.10 lakhs and annual household earnings of more than Rs.10 lakhs).

- To identify the major motivators and deterrents for patients in choosing small hospitals.

Operational Definitions

Small healthcare providers: National Board of Accreditation of Hospitals and Healthcare Providers defines a small healthcare organization as those with 50 beds or less. This is the operational definition for small health care providers is broadly based on this definition given by followed in this study. This will include nursing homes, clinics and dispensaries. These are usually owned and run by doctors or their families.

Big / corporate hospitals: Health care providers with 50 beds or more / run like a corporate. Usually owned by businessmen and run by managers.

Households with earnings between INR 200,000 and INR 10,00,000 were classified as 'middle class'. Hence the two categories considered here are 'middle class' and 'upper class'. Assumption here is that people with annual household income of less than Rs.2 lakhs visit government hospitals for their healthcare needs.

Hypotheses

$H_0$1: In the case of minor ailments there is no difference in preference for health care providers (small health care providers and big / corporate hospitals) across different income categories of households.

H_A1: In the case of minor ailments there is difference in preference for health care providers (small health care providers and big / corporate hospitals) across different income categories of households.

$H_0$2: In the case of major ailments there is no difference in preference for health care providers (small health care providers and big / corporate hospitals) across different income categories of households.

H_A2: In the case of major ailments there is difference in preference for health care providers (small health care providers and big / corporate hospitals) across different income categories of households.

Scope of the Study

The study was geographically limited to the state of Kerala. Districts covered include Thiruvananthapuram and Kozhikode. Type of hospital was limited to allopathic private hospitals i.e. customer preference for small and large / corporate hospitals in the allopathic private sector was examined.

Limitations of the Study

- The study was confined to allopathic hospitals.
- The study was limited to Kerala.
- Sampling limitations – sampling method adopted was convenience sampling.

Research Methodology

Source of data is primary data. This was a quantitative study using survey method. Face to face interviews were conducted using a structured questionnaire (with a few open ended questions as well). Practicality of the questionnaire was tested using a few pilot interviews among respondents with profiles similar to the target respondents. Though 120 respondents were interviewed, after data cleaning sample size was reduced to 111. Sampling method was convenience sampling. Though convenience sampling is not the best method to get a representative sample it is good enough to get a feel of the market. Sampling unit was the person in the household who was responsible for taking decisions on health care related needs of self / the family. The study was conducted in Kerala during April – May 2019.

Findings and Discussions

Respondent Profile

Of the 111 respondents 62.5 percent were men and 37.5 percent were women. 28 percent of the respondents was 25 to 30 years old, 21 percent was 31 to 35 years old, 22 percent was 36 to 40 years old, 17 percent was 41 to 45 years old and the remaining were 46 years and above. Around 56 percent of the respondents were graduates, 24 percent were post graduates and 11 percent were just high school pass outs. A few had PhD. 42 percent of the respondents worked in private organizations, 31 percent ran their own business, 12 percent were professionals and 7 percent had Government jobs.

Table 1: Healthcare Provider Preferred in Case of Minor Ailments

Healthcare Provider	No. of Respondents	Percentage
Small health care providers	107	96.4%
Big / corporate hospitals	4	3.6%
Total	111	100%

Source: Primary Data

In the case of minor ailments almost all (96.4 percent) prefer to go to small hospitals, doctors' consultation clinics or doctors' homes. Very few (3.6 percent) prefer to go to big / corporate hospitals.

Cross tabulation of preference for small and large hospitals across the two income categories (annual HH income of Rs.2 L to Rs.10 L and more than Rs.10L) revealed that both categories prefer small hospitals in case of minor ailments.

Table 2: Preference for Healthcare Provider for Minor Ailments - Across Income Categories

			Minor ailment_Preference		Total
			Small health care providers	Big / corporate hospitals	
Annual HH Income	Rs.2L to Rs.10L	Count	79	3	82
		Expected Count	79.0	3.0	82.0
		% within Income	96.3%	3.7%	100.0%
		% within Minor ailment_Preference	73.8%	75.0%	73.9%
		% of Total	71.2%	2.7%	73.9%
	More than Rs.10L	Count	28	1	29
		Expected Count	28.0	1.0	29.0
		% within Income	96.6%	3.4%	100.0%
		% within Minor ailment_Preference	26.2%	25.0%	26.1%
		% of Total	25.2%	.9%	26.1%
	Total	Count	107	4	111
		Expected Count	107.0	4.0	111.0
		% within Income	96.4%	3.6%	100.0%
		% within Minor ailment_Preference	100.0%	100.0%	100.0%
		% of Total	96.4%	3.6%	100.0%

Source: Primary Data

Table 3 : Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.003[a]	1	.958		
Continuity Correctionb	.000	1	1.000		
Likelihood Ratio	.003	1	.958		
Fisher's Exact Test				1.000	.721
Linear-by-Linear Association	.003	1	.959		
N of Valid Cases[b]	111				

Chi Square test was conducted to assess the significance of difference in preference across income categories.

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.05.

b. Computed only for a 2x2 table

Pearson Chi Square Significance value is .958 ($p > .05$). Therefore null hypothesis is accepted - In the case of minor ailments there is no difference in preference for health care providers (small health care providers and big / corporate hospitals) across different income categories of households.

Table 4: Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.005	.958
	Cramer's V	.005	.958
	Contingency Coefficient	.005	.958
N of Valid Cases		111	

For this data, Cramer's statistic is 0.005 out of a possible maximum value of 1. This represents almost no association with income levels and preference.

Table 5: Healthcare Provider Preferred in Case of Major Ailments

Healthcare Provider	No. of Respondents	Percentage
Small health care providers	57	51.6%
Big / corporate hospitals	54	48.4%
Total	111	100%

Source: Primary Data

For major ailments 51.6 percent of the respondents were seen to prefer small health care providers whereas 48.4 percent preferred big / corporate hospitals. The preference for big / corporate hospitals for treating major ailments is way higher vis-à-vis for minor ailments (47.5% prefer big / corporate hospitals for treatment of major ailments as against 3.4% preferring it for treatment of minor ailments).

Table 6: Preference for Healthcare Provider for Major Ailments – Across Income Categories

			Major ailment_Preference		Total
			Small health care providers	Big / corporate hospitals	
Annual HH Income	Rs. 2 L to Rs.10L	Count	43	39	82
		Expected Count	42.1	39.9	82.0
		% within Income	52.4%	47.6%	100.0%
		% within Major ailment preference	75.4%	72.2%	73.9%
		% of Total	38.7%	35.1%	73.9%
	More than Rs.10L	Count	14	15	29
		Expected Count	14.9	14.1	29.0
		% within Income	48.3%	51.7%	100.0%
		% within Major ailment preference	24.6%	27.8%	26.1%
		% of Total	12.6%	13.5%	26.1%
	Total	Count	57	54	111
		Expected Count	57.0	54.0	111.0
		% within Income	51.4%	48.6%	100.0%
		% within Major ailment preference	100.0%	100.0%	100.0%
		% of Total	51.4%	48.6%	100.0%

Source: Primary Data

Cross tabulation of preference for small and large hospitals across the two income categories (annual HH income of Rs.2 L to Rs.10 L and more than Rs.10L) revealed that both categories prefer small hospitals in case of major ailments too (though the preference for large hospitals is significantly higher vis-à-vis minor ailments).

Table 7 : Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.149[a]	1	.700		
Continuity Correctionb	.029	1	.865		
Likelihood Ratio	.149	1	.700		
Fisher's Exact Test				.829	.432
Linear-by-Linear Association	.147	1	.701		
N of Valid Cases[b]	111				

a. 0 cells have expected count less than 5. The minimum expected count is 14.11.

b. Computed only for a 2x2 table

Pearson Chi Square Significance value is .700 (p > .05). Therefore null hypothesis is accepted - In the case of major ailments there is no difference in preference for health care providers (small health care providers and big / corporate hospitals) across different income categories of households.

Table 8: Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.037	.700
	Cramer's V	.037	.700
	Contingency Coefficient	.037	.700
N of Valid Cases		111	

For this data, Cramer's statistic is 0.037 out of a possible maximum value of 1. This represents almost no association with income levels and preference.

Major Motivators in Choosing Small Hospitals:

Table 9: Choosing a Small Healthcare Provider – Major Motivators (Multiple responses)

Total no. of respondents: 60

	Motivators	Frequency	Percentage
1	Low cost	33	55 %
2	Distance	25	42 %
3	Friendly & caring doctors (& staff) / Good doctors	23	38 %
4	Familiarity with the doctor	11	18 %
6	Quick response	11	18 %
7	Less waiting time	7	12 %

Major motivator in choice of small hospitals is low cost of healthcare delivery. Distance to the healthcare facility (accessibility) and 'friendly and caring doctors' are the other chief motivators. This finding is supportive of the assumption that small hospitals are important in delivering affordable and accessible healthcare.

Managerial Implications:

There seems to be distinct preference for small health care providers over large corporate hospitals for treatment of both minor and major ailments. Small health care providers need to convert this preference to 'purchase' and consequently to loyalty. Suitable marketing strategies need to be devised for this. Healthcare is an out of pocket expenditure in Kerala (as for the rest of the country). Small hospitals working out a consolidated model to maintain cost advantage over big / corporate hospitals can help in retaining patients. Also, maintaining good relationship with patients can work as an advantage over large hospitals where patient interactions are mostly faceless.

Scope for Further Research

This study analyse the consumers' preference for small hospitals across two income categories –annual household earnings of Rs. 2 lakhs to Rs.10 lakhs and annual household earnings of more than Rs.10 lakhs. Research can be carried out to understand preference across more levels of income categories. This can help in proper segmentation of the market and look at various positioning variables (for e.g. affordability of heralthcare). Factors in choice of a healthcare provider can be studied in more detail considering more variables and then doing factor analysis to identify the motivating factors for small hospitals so as to devise effective marketing strategies for attraction and retention of patients.

Conclusion

The study concludes that it is not lack of consumer preference that drives closure of small hospitals. Since small hospitals form an important part of healthcare ecosystem in the state (and the country), the real reasons for closure of small hospitals need to be identified and measures have to be taken to protect small hospitals to safe guard the interests of both providers and patients.

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