

Study on Sustainability of Free Health Service in Sri Lanka

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Abstract: Health service is one most important service sector of any country. Quality of health care services indicates the sustainability of health service. Sustainability of health service consists of three main factors namely financial, social and environmental sustainability. Health financing and patient satisfaction is parameters of financial and social sustainability respectively. Sri Lanka is one of few countries which principally accept the free health concept. Therefore government health expenditure and its utility are important areas to be studied for sustainable service. .

This study was designed to analyze social and financial sustainability. Social sustainability was analyzed by patient satisfaction using primary data which was collected by questionnaire and financial sustainability was analyzed using secondary data.

A significant gap could be found between total health expenditure and public allocation. Government health financing was limited to the range of 40 to 60 % showing 40 - 60 % deficiency of total health expenditure. Private health financing has always contributed for more than 40% of total health expenditure. Out of this private health expenditure more than 80% of expenditure was covered by household out of pocket.

Moderate level of social sustainability has indicated by having moderate patient satisfaction and recommending state hospitals for others to obtain health care services. Patient satisfaction level is mainly dependent with behavior of the staff. But the level of satisfaction on staff is moderate. Analysis revealed that the facilities and the treatment quality do not affect the patient satisfaction.

Government should increase the Gross Domestic Product (GDP) contribution as the principal mode of health financing giving special attention on poor population. More attention should be given on Staff factor in order to increase the patient satisfaction level while maintaining minimum standards of facilities and treatment process. Patient awareness on treatment should be improved as it is a quality determinant of health service.

Key Words: Free Health Service, Health Expenditure, Patient Satisfaction, Service Quality, Sustainability

I. Introduction

1.1 Background

The health system is a set of interconnected staff, institutions and resources that undertake to improve health status of the country. The health care system includes stakeholders in the government, private-for-profit and private-not-for-profit sectors Government maintains the policy of free services in government institutions in Sri Lanka.

A sustainable health system has three key attributes which are affordability, acceptability to key constituents, and adaptability (Fineberg, 2012). Quality of health care services indicates the sustainability of health service. Patient satisfaction is a widely used tool of health care quality. Health care utilization, expenditures, and outcomes are interrelated with patient satisfaction.

Sri Lanka is one of few countries which principally accept the free health concept with no “out of pocket” share as a mode of allocation. Therefore government health expenditure is an important fraction for country health system. Foreign and local non-government organization (NGO) funds, personal and social insurance schemes and personal expenditure are the common share of total health expenditure.

1.2 Research Problem

Health Services of Sri Lanka with the policy of free health has diverted where as citizens spend some amount of money to fulfill their routine healthcare needs. Every citizen expects that their whole health responsibilities are under taken by the government. For maintaining their satisfaction, government should overlook individuals both short term and long term health needs. Therefore ineffective utility of budget allocations create challenging situation in sustainability of the health system.

This study was focused to analyze secondary data to public health financing and patient satisfaction level with regard to the state sector health services.

1.3 Objectives of the Study

1. To identify the gap of public funds of the health service
2. To measure the patient's satisfaction level at free health institution

II. Literature Review

2.1 Overview

Country's ability to provide quality health services for its citizens is a major component influencing health status of the country. Improving access, coverage and quality of services depends on key resources being available (Report, World Health, 2000).

The social determinants of health are shaped by the distribution of money, power and resources at global, national and local levels through the health system of the country (Harrison & Deen 2011).

Government of Sri Lanka has firm political commitment to ensure equality in health. The government of Sri Lanka stated the delivery of quality and complete health service for the entire nation as a strategy for accelerated development in 2002 (Vision and Strategy for Accelerated Development, 2002).

Health service of Sri Lanka has shown good performance in declining mortality rates, high level of life expectancy and decline of communicable diseases. Further the prominent health issue has been shifted from communicable diseases to non-communicable diseases.

2.2 Health financing

Key modes of allocations used to cover the health expenditure depend on the economic policy of the country. IHP Sri Lanka Health Accounts database (January 2007 revision) has shown that in 2005 government Hospitals have consumed 71% of expenditure from government and 19% was from private spending. Health financing can be analyzed using different health financing systems in different countries. In India total health spending is at around 5% of GDP or US\$40 per-capita. It is comparable to countries which are at similar levels of development. The government health spending in India at 1% GDP or US\$8 per-capita and it is comparatively low (Berman, P. and Ahuja, R, 2008). Low public health spending is compensated by high private health spending and over 90% is come from out-of-pocket payments by households. This situation is a large financial burden on households (Berman P, R Ahuja, and L Bhandari, 2009). Nepal government contributes less than 25% of total health spending and 60% of health spending contributes out-of-pocket payments (Health care Financing in Nepal, 2010). In 1997 Cuba has spent nearly 6.7% of GDP for health which is equivalent to US\$ 139 per capita (Health expenditures for Latin America and the Caribbean, 2002). China government spending is less than 20%. Consumers spend nearly 60% of total health expenditure (Report, China National Health Accounts, 2007).

In United Kingdom the total spending on health care of GDP was 8.7% in 2008 (Boyle, 2011). WHO has ranked the countries according to the government health spending on health and Sri Lanka is lie in first 20 lowest government contributing countries in 2012. There are many other countries such as Singapore, Malaysia and China with higher government GDP contribution without free health policy in the country.

2.3 Sustainability of the Service

The definition of Sustainability is the needs of consumer are met, without compromising the needs of tomorrow (Source:<http://www.sdu.nhs.uk/about-us>, n.d.). Managing financial sustainability will result economic prosperity. Social sustainability ensures the social responsibility and ecological sustainability establishes the environmental stewardship (Smith, 2010).

Evaluation sustainability is the determination of the merit, worth, and significance of efforts to continue a given evaluation objective (Schroter, 2010). Sustainability can be evaluated with regard to social, economic and environmental sustainability. Only with customer satisfaction, drives a process sustainably. It reflects the quality of the process. Quality is one major consideration in sustainability (Angelova B. and Zekiri J, 2011).

2.4 Patient Satisfaction

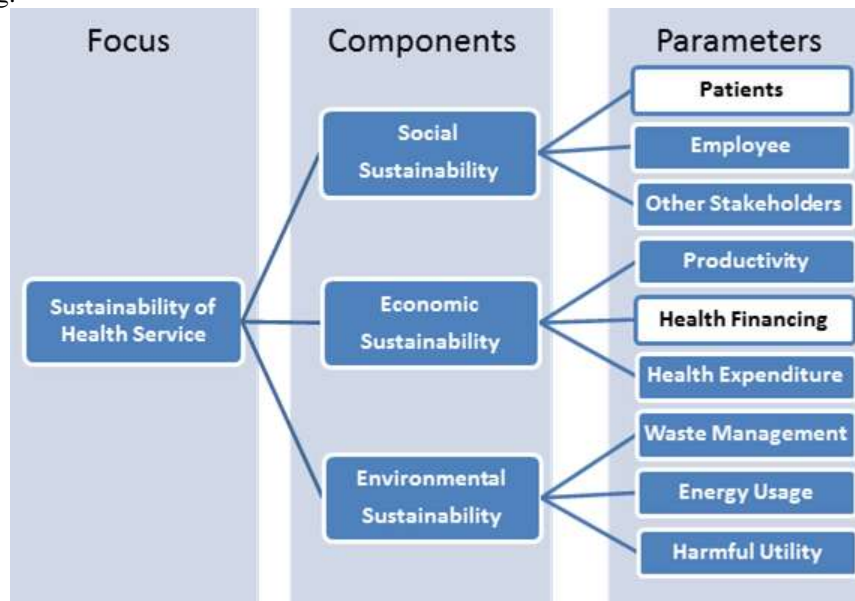
Satisfying or fulfillment of consumer needs and desires is defined as satisfaction (Besterfield, (1994). In health sector the major stake holder is patient. Therefore patient satisfaction analysis represents a major fraction of social sustainability. Some studies have found length of hospital stay is correlated with patient satisfaction (Borghans, I Sophia, M K Rudolf, B K and Gert, P W, 1994).

Environment, the quality of care on their unit and patient safety are the determinants for patient satisfaction which affects in different degrees (You et al. 2012). Studies on hospital care are very low and there are some studies on primary health care (Baltussen R.M, Ye Y and Haddad , 2002).

III. Methodology

3.1 Introduction

The study was designed to analyze the sustainability of health service. Sustainability framework consists of major three components namely social, financial and environmental sustainability (Figure 3.1). In this study social and financial sustainability was studied using selected parameters. For social sustainability patient satisfaction was analyzed to study a part of social output. Financial sustainability was analyzed using health financing.



* Selected parameters for the research

Figure 3.1: Conceptual framework for healthcare sustainability

Financial sustainability was studied using secondary data. Social sustainability was studied by primary data collection through a questionnaire.

3.2 Data collection

Primary and secondary data were collected in order to achieve the objectives of the study.

3.2.1 Secondary Data Collection

Secondary data collection was carried out by using relevant and reliable data sources which were issued by responsible government health authorities and other financial authorities. Secondary data was collected by using following resources.

1. Annual reports of Ministry of health Sri Lanka
2. World Health Organization Database
3. Other reliable data sources

In this research financial allocations were analyzed using budget allocations and expenditure. It was supported by primary data of the questionnaire.

3.2.2 Primary Data Collection

Fulfillment of patient's health care need and patient's satisfaction was evaluated by primary data which was collected from patients via a questionnaire.

Study Population:

Patients who obtain state sector health facilities

Sample:

Sample was the patients of National Hospital of Sri Lanka who come for treatments. Sample number was 385. Patients were taken in 3 segments namely clinic, outpatient department patients and clinic patients and number of patients from each segment was selected using annual statistics of National Hospital of Sri Lanka (2015). Convenient sampling was used for data collection.

3.3 Data analysis

Two types of data were considered in data analysis.

3.3.1 Primary Data Analysis

Questionnaire consists of following information and provided with following content.

Table 3.1: Consistency of the Questionnaire

Variable	Questions	Reference
Patient’s demographic data		
Satisfaction on staff	1,2,3 & 4	(Webster, 2011).
Satisfaction of consultation and Treatments	5,6&7	(Webster, 2011).
Availability of health facilities	8,9&10	(Webster, 2011).
Overall Satisfaction of hospital health service	11&12	(Webster, 2011).
Obstacles for obtaining free health facilities	13	(Parasuraman, 1988).

Items were scored using a 4-point Likert scale.

3.3.2 Secondary Data Analysis

Secondary data analysis was carried out comparing different data sources and illustrating evident full data.

IV. Results and Discussion

4.1. Secondary data analysis for health financing gap

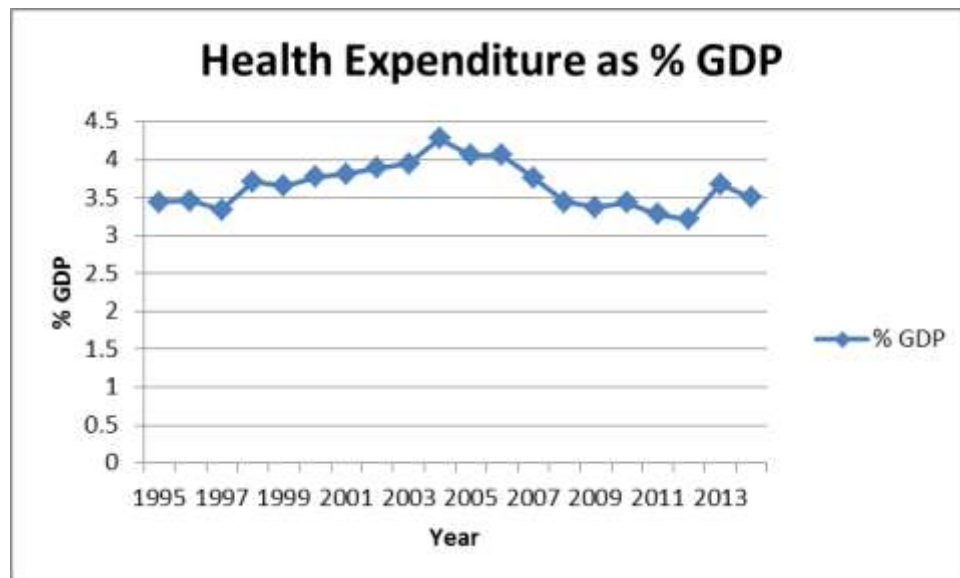
Secondary data of public health expenditure consists of recurrent and capital spending from government budgets, external borrowings and grants were analysed through secondary data.

4.1.1 World Health Organization (WHO) Data

The Government maintains health care expenditures at 8% to 10% of total public outlays. Throughout the 1990s, total health expenditure in Sri Lanka was 3.1% to 3.5% of GDP with government and private sectors taking almost equal shares. Most of the public expenditure on health of US \$29 per capita is acquired by the Central Government with very little provincial revenue or other public resources (National Health Accounts, 2002).

According to the ranking of health systems of different countries which was carried out by WHO, Sri Lankan health system is in 76th position and it is a lower position comparing other countries and the 178th position which spends a low percentage GDP less than many countries like Japan, Bhutan, Thailand and Maldives etc. where there do not have free health service showing underlying divergence of health service in Sri Lanka.

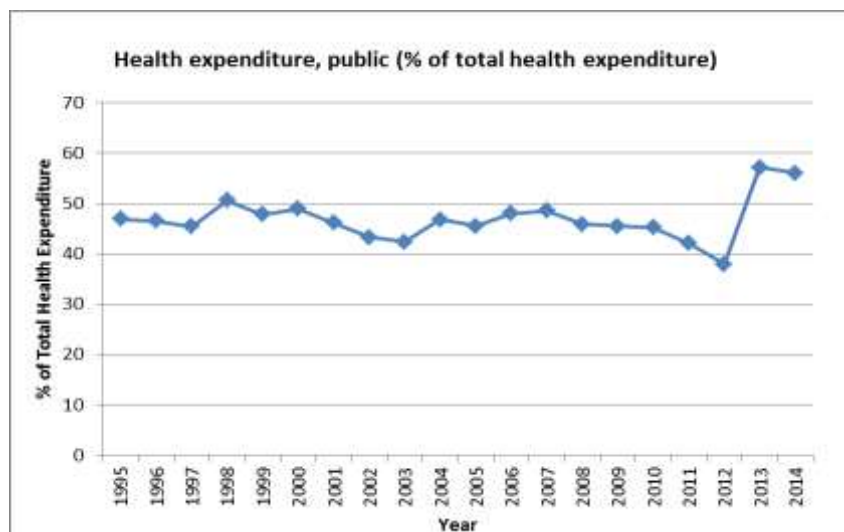
Figure 4.1 illustrates the percentage GDP of total budget allocation. It clearly shows the decline of percentage GDP annually from 1995 to 2014.



Source: WHO Global health expenditure data base

Figure 4.1: Total health expenditure of Sri Lanka (% of GDP)

Public health expenditure is always less than 50% of total health expenditure until 2012 and it has been increased since 2013 (Figure 4.2).



Source: WHO Global health expenditure data base

Figure 4.2: Public health expenditure (% of total health expenditure)

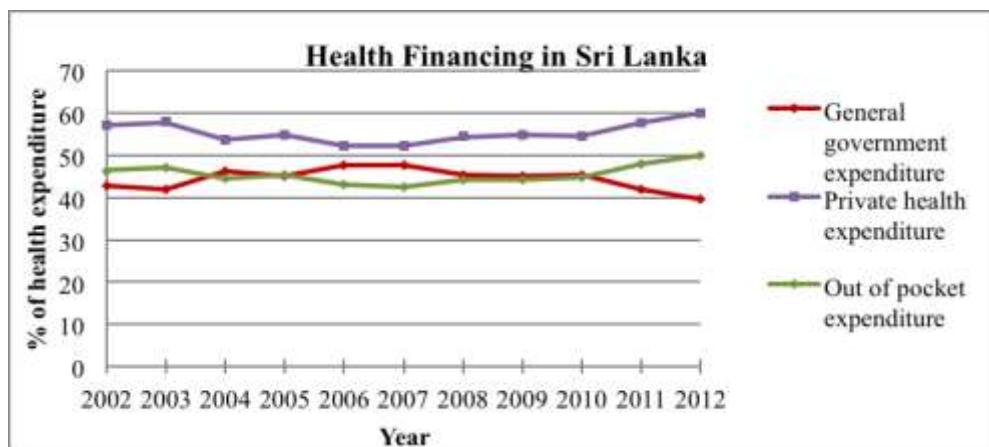
4.1.2 Analysis of IHP Data on Sri Lankan Health

Analysis of data obtained from Institute of Health policy (IHP) Sri Lanka Health Account Database As it is an independent data source was concerned as a reliable data to be analyzed.

Total expenditure on health in Sri Lanka was about US\$ 76 Billion in 2013 It is 3.24% of GDP. Private spending fraction has been increased since the early 1990s. Government contribution for health financing was always less than 50% of total health expenditure. Maximum government contribution has shown in 2013. It was 59% of total health expenditure. Private sector contribution is always more than 50% of total health expenditure. Major contribution of private sector financing is house hold out of pocket. In year 2000, out of pocket contribution was lowest and even in this year also it has covered more than 92% coverage of private health expenditure. It reveals since year 1993 while private sector health financing getting increased out of pocket fraction also has been increased (IHP Sri Lanka Health Accounts database, 2007). Since 1990 even though government budget allocations for health expenditure has increased in a small quantity, government contribution for total health expenditure has been reduced.

4.1.3 Data Analysis of World Health Organization Country Statistics

Country statistics of WHO reveals that since 2002 government contribution for health financing has been fluctuated between 39.8% and 50%. It is always less than 50% of total health expenditure. It has clearly indicated the private health financing has been increased since 2002 and it is always over 50% of total health expenditure. Affecting situation is out of this private financing major proportion is covered by household out of pocket. It was more than 80% of private health expenditure and house hold out of pocket component covers more than 44% of total health expenditure. This data represents the gap of free health system and existing real situation (Figure 4.3).



Source: (<http://apps.who.int/gho/data/node.country.country-LKA>)

Figure 4.3: Health financing in Sri Lanka

4.2. Primary Data Analysis

Detail analysis was carried out using SPSS software including reliability of the data instrument and variables.

4.2.1 Reliability study

There is high internal consistency in relation to Cronbach's alpha. It indicates that the variable can be created to carry out further statistical analysis (Table 4.3).

Table 4.1: Cronbach's alpha table for variables

Variables	Cronbach's alpha	No of Items
Staff	0.770	4
Treatment	0.810	3
Facilities	0.716	3

Source: Survey Data

4.2.2. Descriptive Statistics

Descriptive statistics were provided to understand the nature of the variables used in the study (Table 4.2)

Table 4.2: Descriptive statistics

	Staff	Treatment	Facilities	Overall	Recommendation
Mean	2.8636	2.3906	2.2138	3.23	3.78
Std. Deviation	.86623	1.07332	.88225	.978	.943
Skewedness	-.047	.617	.581	.050	-1.029
Std. Error of Skewedness	.243	.243	.243	.243	.243
Kurtosis	-1.117	-.737	-.168	-.336	1.084
Std. Error of Kurtosis	.481	.481	.481	.481	.481

Source: Survey Data

Mean of the staff satisfaction has shown moderate satisfaction. Mean for treatment has indicated negative response on satisfaction because its mean was 2.3. Satisfaction on facilities was also in negative side with mean as 2.2. Overall satisfaction and recommendation is in positive side with mean of 3.23 and 3.78 respectively. Standard deviation is high in treatment satisfaction Mode is 3 and it indicates almost all responses lie in moderate position.

4.2.3 Skewedness

It lies between -1 and +1. Data are normally distributed. Absolute skewedness was less than 3 times of standard error of skewedness. Therefore data are normal. Further absolute value of the kurtosis was also less than 3 times of standard error of kurtosis. Therefore kurtosis is also evident that data are normal

4.2.4 Overall Statistics

The study has analyzed the impact of staff, facilities, treatment and overall satisfaction in relation to multiple regression models. According to the model summery multiple correlations is 0.638. This indicates that behavior of staff, facilities, level of treatment is positively associated with overall satisfaction of the patient. According to the coefficient factor, R² is 40.7% of overall satisfaction has been covered by regression model. As this value belongs to the sample it was decided to validate the regression model with respect to the regression "ANOVA" table. Data is provided in Table 4.3.

Table 4.3: ANOVA^b

Model	Sum of Squares	Mean Square	F	Sig.
Regression	38.101	12.700	21.718	0.000 ^a
Residual	55.555	.585		
Total	93.657			

a. Predictors: (Constant), Facilities, Staff, Treatment

b. Dependent Variable: Overall Satisfaction

Source: Survey Data

According to the Table 4.3 probability of F test statistics is 0.000. This is highly significance at 1% level of significance. Therefore regression model is jointly significant. It indicates that behavior of staff, available facilities, level of treatment jointly influence the overall satisfaction.

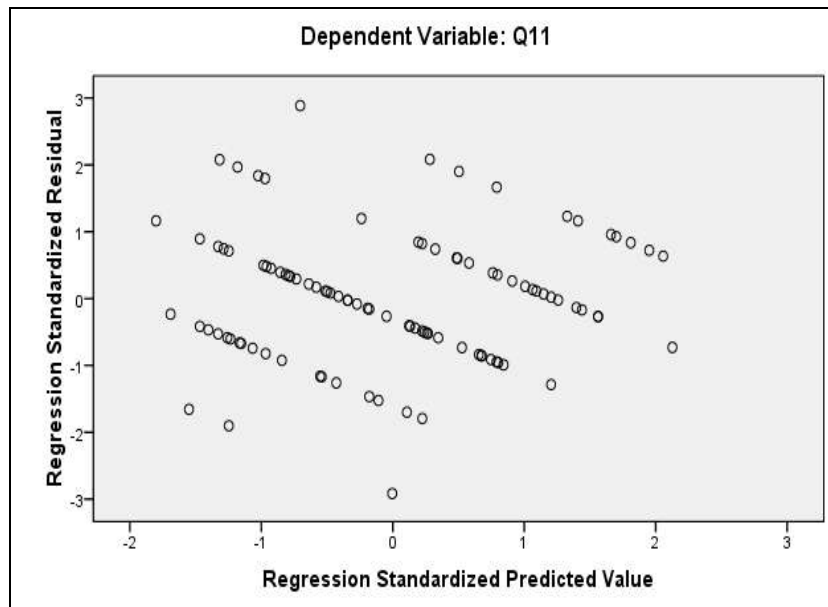
To understand the highly sensitive factor, individual effect of each factor was examined.

According to the coefficient table probability of staff behavior is 0.000. This highly is significant at 1% level of significance. Therefore behavior of staff highly influence on patients overall satisfaction Beta value of the staff behavior is 0.451. This indicates that behavior of staff positively influence on patient satisfaction. In other words behavior of staff is significantly influenced on patient overall satisfaction.

Probability of facilities is 0.061. This is significant at 10%. Therefore there is marginal influence from facilities on patient satisfaction. Beta value is 0.207. This indicates that facilities also positively influence patient satisfaction. But it is marginal.

As the probability of treatment level is insignificant, there is no any significant effect of treatment on patient satisfaction.

The study has carried out diagrammatic test to study the validity of regression results. Figure 4.4 provides the results of standardized residual with respect to standardized predicted value.

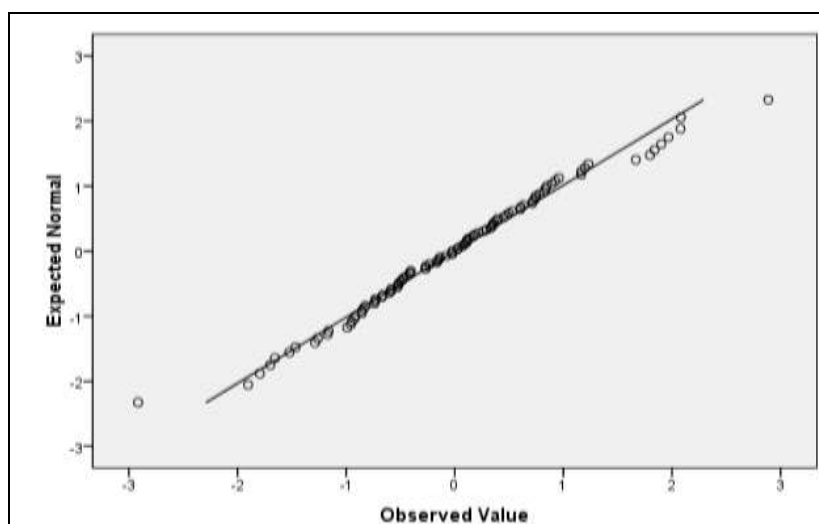


Source: Survey Data

Figure 4.4: Scatter plot for dependent variable

According to the scatter plot provided in Figure 4.4 residuals do not have a systematic pattern. It source by the residual as they are distributed randomly. This indicates that residuals are homoscedastic. This means regression model does not have the problem of homoscedasticity. According to this diagrammatic test, result of the study is more valid.

Normality of residual has been tested in the study with respect to mathematical and graphical approaches. According to the probabilities of Kolmogorov test statistics standardized residual is insignificant. This is because beta value is 0.200. Probability of Shapiro-Wilktest statistics is also insignificant as it has 0.648 P value. This result indicates that residuals are normally distributed providing valid results residuals are normal and regression results are more valid. Graphical approach is provided in Figure 4.5 as the normal Q - Q plot.



Source: Survey Data

Figure 4.5: Normal Q-Q plot of standardized

Selected three patient categories are treated in different manner and process of treatment is different each other and overall satisfaction was analyzed separately.

4.2.5 Overall Satisfaction and private sector utility

Overall satisfaction of Clinic patients is moderate (Mode 3) and recommendation is high (Mode 4). Furthermore clinic patients utilize private sector moderately (Mode 3). OPD patients are also having moderate overall satisfaction (Mode 3) while having high level of recommendation (Mode 4). Utility of outside sources is minimal among OPD patients (Mode 1). Recommendation response among inward patients is same as OPD and Clinic patients. It is in high level of acceptance. Overall satisfaction is moderate (Mode 3). Private sector utility was seen moderately (Mode 4).

4.2.6 Significance

Practical situation in government institutions are not a smooth and completely free service to the patient. There are waiting lists and queues for clinics and procedures which results unavailability of timely service to the patient. On the other hand several incidents are taken place to purchase drugs and accessories for patient management from outside spending out of pocket money of patient. And there is no opportunity for getting specialist consultation according to the patient's need. This reveals quality gap which relates with patient expectation. Therefore measures and factors should be deeply studied in order to efficient utility of public funds which is allocated for free health service.

V. Conclusions and Recommendations

According to the all above data sources government health financing in Sri Lanka has been reduced and it was fluctuated in range of 40 to 60 percent of total health expenditure. Private health financing has become increased and it has always contributed for more than 40% of health expenditure. More than 80% of private health expenditure was covered by household out of pocket. All three data sources have shown the evidence for a significant gap between total health expenditure and insufficient allocation for freely available health facilities. Therefore restructuring of health financing system is required for assuring sustainability free health service. Government should increase the GDP contribution as the principal mode of health financing giving special attention on poor population.

Moderate overall satisfaction could be seen in primary data analysis. But respondents recommend state institutions for health care services. Satisfaction components which were concerned at the analysis may not be reflected by Recommendation factor. It may be affected other factors and it should be further studied. Patient satisfaction level is mainly dependent with behavior of the staff. But the level of satisfaction on staff is moderate. It should be improved in order to increase the patient satisfaction level up to a satisfactory state. Less effect of awareness on treatment and environment could be seen. Patients in OPD, clinic and inward use private sector for the completion of their treatment process.

More attention should be given on Staff factor in order to increase the patient satisfaction level while maintaining minimum standards of facilities and treatment process. Patient awareness on treatment should be improved as it is a quality determinant of health service.

VI. Discussion

In this study financing and cost effectiveness was analyzed for financial sustainability. Literature on Sri Lankan context was not common in this study. At the end of the study finding could reveal the importance of studying on health financing and sustainability in order to reorganize the health policy and structure according to the health trends and financial trends.

Primary data collection instrument was a questionnaire which was designed using model questionnaire developed for developing and poor countries.

It is better to consider island wide distributed data collection for more reliable inference on patient satisfaction. It is recommended to study other parameters of the conceptual framework for completion of the study.

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