THE MEDIATING EFFECT OF BRAND EQUITY ON THE RELATIONSHIP BETWEEN PERCEIVED QUALITY OF CARE AND LOYALTY OF CUSTOMERS TOWARDS THE LADY RIDGEWAY HOSPITAL FOR CHILDREN, COLOMBO

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Abstract

As it is known in the competitive health care Industry, the impact of Perceived quality of care on the attitudes and behavior of visit and re-visit intention of the customers towards hospitals is becoming an important issue. The aim of this study is to examine the relationship between Perceived Quality of Care and Customer Loyalty and how Brand Equity affects the association of perceived quality with Patients Loyalty. For this purpose, data was collected from 196 respondents who sought inward care from the Lady Ridgeway Hospital for Children, Colombo. The study revealed that customers from all social layers seek care at the Lady Ridgeway Hospital. In addition, the findings reflected that Perceived Quality of Care has a positive effect on the Patients Loyalty towards the hospital, the hospital has a good Brand image, and it plays mediating role in this relationship. Patients Loyalty mainly depends on the qualitative aspects of the services provided and not on the socio-economic factors of the patients. Results imply that the Perceived Quality of Care received by the patients lead to build up Brand Equity towards the hospital which in turn leads to Patients Loyalty towards Lady Ridgeway Hospital for Children, Colombo.

Keywords: Lady Ridgeway Hospital, Customer satisfaction, Customer Loyalty, Brand Equity

Introduction

Health services include all services dealing with the diagnosis and treatment of disease, or the promotion, maintenance and restoration of health. They include personal and non-personal health services. Health services are the most visible functions of any health system, both to users and to the public. Delivery of healthcare varies in different countries of the world. In some countries healthcare is provided for a fee at the point of delivery and the cost is mostly covered by health insurance. In contrast, Sri Lanka has a well-developed and well accessible free healthcare delivery system provided by the state. It includes almost 631 hospitals providing different levels of care from small primary medical care units to teaching hospitals with total number of 80,531 hospital beds (Ministry of Health, 2015).

Lady Ridgeway Hospital for Children (LRH) is the premier Tertiary Care Teaching Hospital for children in Sri Lanka, located in Colombo. LRH with 973 beds renders its services for children less than 14 years of age and it provides inward services for almost all clinical specialties. Total number of employees serving this hospital is around 2500 including 400 doctors & specialist doctors and around 750 nurses. About 300 patients are admitted daily to the hospital. According to the hospital statistics there were about 86,000 patients admitted to the hospital in the year 2015. It has been found that there are more in-ward patients than the number of beds available at any given time in the LRH, especially in the pediatric (medical) and surgical (general pediatric surgical) wards. Patient's satisfaction surveys conducted quarterly by the Quality Management Unit (QMU) of the hospital revealed that regardless of all these difficulties patients were still willing to get admitted due to various factors that lead them to have positive thoughts about the hospital. LRH gets patients from all over the country and these patients are admitted on their own will, without any kind of referral. Therefore, the researcher found it worthwhile to understand how the brand equity of the hospital has influenced the loyalty intention of customers towards the hospital. At the same time researcher found that it is important to identify whether the service quality has an effect on Hospital brand equity and if so what aspects of service quality have been more influential in brand equity.

Literature Review

Customer Satisfaction

Quality of health services, adequacy of physical facilities and their layout, attitudes and behaviors of hospital employees and the image of the hospital play an important role in customers' decisions upon which hospital to choose (Berkawitz and Flexner 1981). Service quality is the difference between customer expectations and perceptions after presentation (Zeithaml et al. 1990) and service quality in health sector is an important element in achieving customer satisfaction. Corporate image is the impressions of customers about the institution (Barich & Kotler 1991). Accordingly, impressions of patients about a hospital determine the image of the given hospital. Corporate image has a positive correlation with customer satisfaction and customer preferences (Heung et al., 1996).

Depending on customer expectations, employees' evaluations and executives' vision, the dimensions of service quality are listed as tangibles, reliability, responsiveness, assurance and empathy (Zeithaml et al. 1990). Tangibles are regarded as physical facilities, equipment and appearance of personnel. Reliability is considered as the ability to perform the promised service dependably and accurately; responsiveness denotes willingness to help customers and provide prompt service. Assurance is thought as knowledge and courtesy of employees and their ability to inspire trust and confidence; empathy is thought to include access, communication and understanding the customer and is considered as caring and individualized attention of the employees to customers (Rahaman et al., 2011).

Patient satisfaction is an important and commonly used indicator for measuring the quality in health care. Patient satisfaction affects clinical outcomes, patient retention, and medical malpractice claims. It affects the timely, efficient, and patient-centered delivery of

quality health care. Patient satisfaction is, thus a proxy, but a very effective indicator to measure the success of doctors and hospitals. (Bhanu , 2010).
Service providers and scholars have long recognized the importance of customer satisfaction as contributing to maintain and enhance market share and return on investment for companies. Various scholars have proposed several definitions and models of customer satisfaction. The focus of much of the research is on the "disconfirmation of expectations" theory, which explains that "the customer is satisfied when he or she feels that the product's performance is equal to or more than what was expected (confirmation). But if perceived performance falls short of his/her expectations (disconfirmation), then the customer is dissatisfied" (Oliver, 1980).

Patient satisfaction goals may not always align with responsible patient care (Rothberg et al. 2008). The commonly held perspective is that consumers will be pleased, satisfied with a service encounter if patient meets, or exceeds their expectations. In healthcare, this encounter may include before, during, or after consumption of a medical service. Woodside et Al. (1989) provided evidence that customer satisfaction influenced a patient's desire to engage in a service encounter. Similarly, a patient satisfaction study conducted by Sener (2014) revealed that the highest patients' perception ratings for service quality were related to tangible characteristics and reliability. Findings further highlighted that perceived service quality and corporate image impacted patient satisfaction. Therefore, the more pleasant the patient's in-hospital experience and more positive their treatment outcomes, the higher is the satisfaction measurement.

Evidence indicates that perceived quality is the most important factor influencing consumer satisfaction, which in turn, affects patients' intentions to use the products and services in the future (Zeithaml, 1988). Therefore, considering patients' perceptions of the quality of service is of critical importance. There is no one acceptable approach on how the service quality concept should be measured. The 'SERVIQUAL' approach to the measurement of service quality has attracted considerable attention in recent times.

Customer Loyalty

Just because you score well on patient satisfaction surveys, it doesn't mean your patients will stick around. Elaine Berke, founder of EBI Consulting, a customer service consulting firm based in Westport, Mass., said it's not hard for a doctor to make a patient happy. Nevertheless, the true test of loyalty, she said, is whether the patient will recommend the practice to someone else. Berke says loyalty is built throughout the patient's entire experience, starting with the phone call to make an appointment. Attitude and communication are among the most important elements, she said. While medical excellence used to be considered a differentiator, it was now more of a qualifier, she said. (AMA, 2006).

> In recent years, there has been increasing interest in hospital services, as standards of living have changed and there is a demand for better medical care to improve lifestyles. Improving the quality of medical care services has become a primary concern for patients, and, in order to provide better service to patients, service quality has become increasingly important for hospitals in respect of satisfying and retaining patients

(Alhashem et al., 2011). Understanding inpatients evaluation of hospital service quality performance will improve the existing health care system outcome and enhance service quality; consequently, the number of satisfied inpatients increases and patients will continue to visit their hospitals (Arasli et al., 2008). In addition, patients valuing the relationships are more likely to stay loyal to their hospital (Kessler & Mylod, 2011).

Loyalty has a positive propensity for an organization or brand (Alwi, 2009). In general, loyalty has been considered in various ways, such as positive word of mouth, repurchase intention and so on. Dick and Basu (1994) firstly suggested that the concept of loyalty can be conceptualized as a two-dimensional construct, including attitude and behavior. Subsequently, East et al. (2000) explained that loyalty is closer to a behavioral intention rather than an attitude. On the other hand, Buttle and Burton (2002) argued that loyalty is probably better seen as attitude than behavior. In spite of the arguments about whether loyalty should be conceptualized as attitude, behavior or both, it is apparent that most studies have conceptualized loyalty as a behavioral intention or behavioral response. Rishi Sikka et al.(2016) think that measuring and improving patient loyalty is rapidly becoming a critical competency for health care systems.

Gowda (2013) stated that the preference of customers to buy a brand repeatedly is the most important factor. Hospital services have strong association with particularly doctor services. First timer could be converted into repeated customers because of the loyalty with services. A deep feeling and reactions in service encounter are important for every customer today because once they are satisfied with these services, then they rely on the same services in the future too. The word of mouth of message also increases the loyalty of the customers towards hospital services. The behavior and attitude of the hospital personnel directly related to the customers loyalty.

Brand Equity

Ailawadi, Lehmann, and Neslin (2003) defines brand equity as: “Outcomes that accrue to a product with its brand name compared with those that would accrue if the same product did not have the brand name”. It can be simply understood as the brand’s commercial value, which is derived from the consumer perception. Brand equity can be thought of as a mix that includes both financial assets and associations. Actually, brand equity can be viewed as the value added to the product (Keller, 1993), or the perceived value of the product in consumers' minds.

Brand equity refers to the value of a brand. A strong brand name works as a credible signal of product quality for imperfectly informed customers. Aaker (1996) argues that brand equity is a multidimensional construct that consists of brand loyalty, brand awareness, and other proprietary brand assets. The image of the hospital physically focuses on aesthetics, layout accessibility, seating comfort, cleanliness, display, electronic equipment etc. Emotions and physiological responses influence the hospital image. The overall service received by patients

depends upon image of the hospital services and the hospital image increases the level of customers' satisfaction with physical infrastructure and medical services. The external environment required for patients in the hospital make significant differences to the hospital image and internal service quality more focuses on the image of the hospital. (Gowda, 2103).

A brand is a promise to consumers that the hospital will deliver the kind of care needed. It can bring business and enhance the growth of the organization, especially when high levels of satisfaction and emotional commitment are present. Healthcare branding requires a solid, organized commitment in delivering unique standards of consistency through the institution's products and services. Developing consumer brand relationship can be a challenging and complex process. Brand relationships can take various forms. As an example, a consumer brand relationship may be cognitively based and simply habitual or emotional based (Park et al., 1994).

Healthcare has an intrinsic advantage in building both internal and external brand strength. The mission of a healthcare provider is likely to be much more appealing than that of say, a laundry service. Saving lives and restoring the health of others is much more poignant than, say, selling mobile telephones. Our mission is perhaps one of taking care of the community, serving the needy and poor, and helping the sick when they need it the most. Healthcare brands have already used this advantage to create a strong mission statement and ultimately a sense of purpose. Integrating the mission with the brand will strengthen the public understanding of the organization's mission. Brand means a combination of identification and differentiation that draw strong attention to the product/ service for customers. The brand brings value to customers as well as companies/Institutions. In customers' point of view, companies try to satisfy their customers by providing customers' desire list of values, where value means benefit. On the other hand, when customers are satisfied by getting values from companies, customers may provide value to companies. During the interaction between companies and customers, some unique values that they identify and keep in their mind are considered as brand (Aaker, 1991).

Service Quality

Service quality is an assessment of how well a delivered service confirms to the client's expectations. Service business operators often assess the service quality provided to their customers in order to improve their service, to quickly identify problems, and to better assess client satisfaction. Service quality- Perceived service quality is the consumers' overall perception about the quality/superiority of a particular product or service in comparison to other available service products. Aaker (1991) considers it as an intangible overall feeling about a brand that affects market share, price, and profitability. Since service quality provides a base for service differentiation for a company in terms of reliability, responsiveness, assurance, tangibility and empathy, the real test for its success depends on the competent quality of services it provides to the consumers (Parasuraman et al., 1988).

Patient perception of the service quality level significantly influences the choice of a hospital . Anyway, it is not easier for a patient to understand the level of service quality provided in a hospital as it is unique in all its characteristics. Furthermore, many dimensions are considered in evaluating service quality in a hospital (Arasli et al., 2008; Hariharan et al., 2006; Hoel & Saether, 2003). For example, Eleuch (2011) highlighted that patients lack the knowledge and skill to properly judge medical service quality in relation to the technical aspects of services, such as surgeon's skills or practitioner's diagnostics. Patients are more adequately qualified to measure functional quality dimensions, such as lab cleanliness, than technical quality aspects (Bakar et al., 2010). In this sense, patients' evaluation of the quality of hospital services refers to the interaction between patients and doctors, and this interaction will develop the confidence of the patients in the quality of the medical services provided by a hospital (Suki et al., 2009).

Service Dimensions

Assurance

Assurance is defined as "the employees' knowledge and courtesy and the service provider's ability to inspire trust and confidence" (Zeithaml et al., 2006). According to Andaleeb and Conway (2006), assurance may not be so important relative to other industries where the risk is higher and the outcome of using the service is uncertain. Thus, for the medical and healthcare industry, assurance is an important dimension that customers look at in assessing a hospital or a surgeon for an operation. The trust and confidence may be represented in the personnel who link the customer to the organization (Zeithaml et al., 2006).

Empathy

Empathy is defined as the "caring, individualized attention the firm provides to its customer (Zeithaml et al., 2006, p. 120). The customer is treated as if he is unique and special. There are several ways that empathy can be provided: knowing the customer's name, his preferences and his needs. Many small companies use this ability to provide customized services as a competitive advantage over the larger firms (Zeithaml et al., 2006). This dimension is also more suitable in industries where building relationships with customers ensures the firm's survival as opposed to "transaction marketing" (Andaleeb & Conway, 2006). Thus, in the context of quick service restaurant, empathy may not be so applicable where customers look for quick service and the queues at the counters are long. However, in a fine dining restaurant, empathy may be important to ensure customer loyalty as the server knows how the customer likes his or her food prepared.

Reliability

Reliability is defined as "the ability to perform the promised service dependably and accurately" or "delivering on its promises" (Zeithaml et al., 2006).This dimension is critical as all customers want to deal with firms that keep their promises and this is generally implicitly communicated to the firm's customers. Some companies such as FedEx may make it an explicit

service positioning. For the food & beverage industry, reliability can be interpreted to mean fresh food delivered at the correct temperature and accurately the first time (Andaleeb & Conway, 2006). Parasuraman et al. (1988) defined reliability as the ability of a firm to perform the promised service dependably and accurately. Zeithaml et al. (2006) mentioned that this dimension is critical as customers want to deal with a company that keeps its promises with all its customers and this simply reflects that company has good communication with them.

Responsiveness

Responsiveness "is the willingness to help customers and provide prompt service" (Zeithaml et al., 2006). This dimension is concerned with dealing with the customer's requests, questions and complaints promptly and attentively. A firm is known to be responsive when it communicates to its customers how long it would take to get answers or have their problems dealt with. To be successful, companies need to look at responsiveness from the view point of the customer rather than the company's perspective (Zeithaml et al., 2006). According to Parasuraman et al. (1988), responsiveness is the employee's expressed willingness to help customers and provide quick service.

Tangibles

This dimension is defined as the physical appearance of facilities, equipment, staff, and written materials. It translates to the restaurant's interiors, the appearance and condition of the cutlery, tableware, and uniform of the staff, the appearance and design of the menu, restaurant signage and advertisements. Tangibles are used by firms to convey image and signal quality (Zeithaml et al., 2006). Tangibles have been defined as personal appearance, physical facilities like store decorations, display and equipment (Parasuraman et al., 1988). Tangibles are basic elements such as access to the facilities and the safety and convenience for customers (Bellini et al., 2005).

Conceptual Model and Methodology

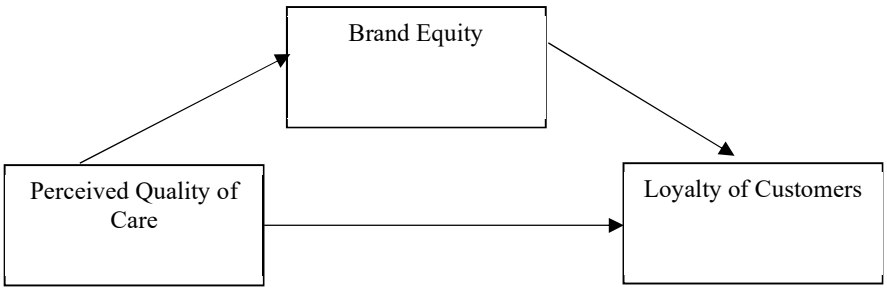

Figure 1. Conceptual Framework (Source: Developed based on literature review)

The study was carried out with the objective of investigating the mediating effect of brand equity on the relationship between perceived quality of care and loyalty of customers at the LRH(figure one). The study was conducted only in Pediatric Medical and Pediatric Surgical

units of the hospital. The reason for choosing said units is that these units have highest bed occupancy rate in the LRH and the most numbers of patients are admitted to those wards. Only volunteered patients/parents were selected due to ethical reasons and to minimize biased responses when interviewing. It is a cross-sectional descriptive study conducted in first half of 2017 and 196 respondents were interviewed. The required ethical approval was obtained from LRH Ethical review committee. The study was conducted using self-administered questionnaire, which consisted of two main parts. The first part of the questionnaire is on Socio-Demographic data, and the second part is consisted of questions to secure data on independent (service quality), dependent (loyalty) and mediator variables (brand image). The second part of the questionnaire was developed based on SERVQUAL: Multiple-item scale for measuring consumer perception of service quality modified to suit the needs of the research.

Following hypotheses were developed to be tested in the study

- H1-Service quality positively influences brand equity
- H2- Brand equity positively influences customer loyalty
- H3- Brand equity mediates the relationship between perceived service quality and customer loyalty

Results

Socio demographic data

According to the findings, mean age of customers is about 36 year and nearly 56% of the respondents belonged to the 31-40 age range and about 22% were in 21-30 years age group. Almost 92% were females, accompanying their sick children. About 94% of them were Sinhalese while only 6% belonged to other ethnicities. About 86% of the respondents were Buddhists and about 9% were Christians. About 70.9% had O/L or A/L education. About 10.2% of the population had education below 11^{th} grade. Only 10.2% of the population was having higher educational qualifications. Keeping up with country's education level of the general population great majority of the respondents had adequate education that in return made them have higher expectations. Details of average monthly income of the respondents shows that customers of the hospital belonged to all social levels of the society. Only about 2% had indicated that their monthly income is less than 5000 rupees. About 12% of those had monthly income between Rs. 10,000 to Rs.20,000 while 15.3% had indicated that their monthly income is ranging from Rs. 20,000 to Rs.30,000. In addition, 13.8% has indicated that their monthly income is more than 45,000 rupees. However about 27% did not disclose their real income

Descriptive statistics

This section elaborates and describes the study data relevant to independent, dependent and mediating variables and their sub domains and the dimensions of each sub domain. The sub domains include perceived quality of care with sub domains; tangibility, reliability, responsiveness, assurance & empathy, customer loyalty and brand equity with sub domains; brand awareness, brand attitude, brand trust, brand prestige & brand commitment.

Table 1: Descriptive Statistics of perceived quality of care

	Perceived quality	Mean	Stand deviation
	Tangibility		
1.	Up-to-date equipment	4.18	0.80
2.	Physical facilities are visually appealing	4.07	3.14
3.	Employees are well-dressed/neat	4.45	0.70
4.	Appearance of the physical facilities are consistent with the type of service industry	3.95	1.08
5.	There is no shortage of drugs in the hospital	3.87	1.20
6.	All clinical investigations are done in house	4.10	1.23
7.	At times drugs are purchased from outside hospital	3.28	1.28
	Overall value	**3.98**	**0.77**
	Reliability		
1.	The hospital provides treatment and other services at the correct time	4.28	0.86
2.	The firm is sympathetic and reassuring, when the customer has problems	4.17	1.02
3.	They are dependable	4.35	0.76
4.	They provide their services at the times promised	4.23	0.88
5.	They keep accurate records	4.51	2.86
	|Overall value	**4.31**	**0.85**
	Responsiveness		
1.	They shouldn't be expected to tell customers exactly when the service will be performed, *negative*	3.29	1.30
2.	It is not reasonable to expect prompt service from employees, *negative*	3.39	1.20
3.	Employees do not always have to be willing to help customers, *negative*	2.68	1.34
4.	It's OK to be too busy to respond promptly to customer requests, *negative*	3.33	1.19
5.	Staff is knowledgeable to answer questions on illness	4.19	0.82
6.	Staff is courteous while dealing with customers	4.16	0.74
	Overall value	**3.51**	**0.72**
	Assurance		
1.	Employees are trustworthy	4.44	0.79
2.	Customers feel safe when transacting with employees	4.35	0.94
3.	Employees are polite	4.49	0.91
4.	Employees get adequate support from the institution to do their job well	4.60	2.97
	Overall value	**4.47**	**1.03**

	Empathy		
1.	Institution should not be expected to give each customer individualized attention, *negative*	3.37	1.36
2.	Employees should not be expected to give each customer individualized attention, *negative*	3.29	1.39
3.	It is unrealistic to expect employees to fully understand the needs of the customer, *negative*	3.26	1.34
4.	It is unreasonable to expect employees to have the best interests of the customer at heart, *negative*	2.85	1.32
5.	Institution should not necessarily have to operate at hours convenient to all customers, *negative*	2.52	1.30
	Overall value	**3.06**	**1.06**

Perceived quality is the independent variable of the study. Assessment of perceived quality domain was done by five operationalized variables, namely tangibility, reliability responsiveness, assurance and empathy. In the tangibility sub domain, majority of respondents agreed that hospital has up to date equipment, visually appealing physical facilities, well-dressed employees, and that all clinical investigations are done in the hospital. Although majority of them with mean value of 3.8 said that there was no shortage of drugs in the hospital, to the question whether they have to purchase drugs from outside sometimes, the majority responses were close to neutral with mean value of 3.28. However overall mean value for tangibility was 3.98, this means that majority of respondents agreed that tangibility is good in the hospital. The overall mean value for perceived quality of healthcare domain was equal to 3.87, this implies that majority of customers agreed that quality of care provided by the hospital is good.

Table 2: Descriptive Statistics of Customer Loyalty

	Customer loyalty	**Mean**	**Stand deviation**
1.	You select this institution as your first choice	4.44	1.00
2.	You and your family generally visit this institution	3.90	1.21
3.	You and your family prefer this institution for any treatments needed	4.13	1.10
4.	You would recommend this institution for your friends/relatives	4.42	0.90
5.	In future you will switch to other institution	2.49	1.41
	Overall value	**3.88**	**0.77**

Customer loyalty is the dependent variable in the study; this was assessed using five separate items. The great majority agreed that they select this institution as their first choice, that they visit this institution generally for treatments, also they prefer and recommend this institution to friends and relatives. The overall mean value of 3.88 shows that loyalty towards Lady Ridgeway Hospital is higher among its customers.

Table 3: Descriptive statistics of Brand Equity and results (N= 196)

	Brand equity	Mean	Stand. deviation
	Brand awareness		
1.	You have a positive image in your mind about this institution	4.34	0.96
2.	The institution is sincere to its customers	4.31	0.85
3.	The institution has a differentiated image of quality (services)	4.35	0.87
4.	The institution has restful environment	4.32	0.76
5.	The institution has clean environment	4.24	0.86
	Overall value	**4.31**	**0.70**
	Brand attitude		
1.	My overall attitude towards institution is good	4.02	0.98
2.	My overall attitude towards institution is Pleasant	4.10	0.96
3.	My overall attitude towards institution is Favorable	4.44	0.74
4.	My overall attitude towards institution is Positive	4.20	0.97
	Overall value	**4.19**	**0.76**
	Brand prestige		
1.	I enjoy the prestige that comes to me while going to the institution	4.16	1.01
2.	I think it has high status	4.22	0.85
3.	I believe it is exclusive	4.27	0.91
	Overall value	**4.22**	**0.78**
	Brand Trust		
1.	This institution has excellent performance compared to others	4.19	0.99
2.	I believe in the care provided	4.10	1.12
3.	I trust the care I receive here from the professionals	4.29	0.85
4.	I can rely on the care received here	4.30	0.81
	Overall value	**4.22**	**0.84**
	Brand commitment		
1.	I feel that I am emotionally attached to my institution	4.14	0.96
2.	I feel homely while being in this institution	4.05	0.96
3.	I have strong sense of belonging to my institution	4.07	1.00
	Overall value	**4.09**	**0.89**

Brand equity, the mediator variable was assessed through sub domains such as brand awareness, brand attitude, brand prestige, brand trust & brand commitment. In the sub domain of brand awareness, overall mean of 4.31 indicates that brand awareness among its customers is high. In the brand attitude sub domain, overall mean value of 4.19 means that large majority

of respondents agreed that they have positive, pleasant, good and favorable attitude towards the institution. Next sub domain is brand prestige with overall mean value of 4.22 and this implies that a larger majority enjoy the prestige and exclusive status associated in visiting the institution. Overall mean value of 4.22 for the brand trust sub domain shows that customers have high brand trust towards the institution. The brand commitment also is high among customers and overall mean value of 4.2 confirms that large majority of customers has brand commitment towards the institution.

Reliability test

The Cronbach alpha was used to measure reliability of the constructs. Cronbach alpha value greater than 0.70 is considered acceptable and good (Cavana et al., 2001).

Table 4: Reliability of the Constructs

Constructs		Composite Reliability			
		Alpha	Items	CR	Items
Perceived quality				**0.69**	**5**
Tangibles	-	0.49	7		
Reliability	-	0.47	5		
Responsiveness	-	0.71	6		
Assurance	-	0.46	4		
Empathy	-	0.84	5		
Customer loyalty	-			**0.71**	**5**
Brand equity				**0.94**	**5**
Brand awareness	-	0.87	5		
Brand attitude	-	0.84	4		
Brand prestige	-	0.80	3		
Brand trust	-	0.90	4		
Brand commitment	-	0.91	3		

Results of the Table 4 shows that the Cronbach alpha values for the nine constructs out of thirteen were well above 0.70. Based on the finding, Cronbach alpha for the construct ranged from lowest of 0.46 (Assurance) to 0.94 (brand equity). In conclusion, the outcome of the reliability analysis showed that the measurement scales of the constructs were stable and consistent in measuring the constructs

Results of Multivariate Analysis

To examine the effect of service quality on brand equity, regression analysis has been conducted. The results show that 19% of variation in brand equity is explained by variables

used in the regression analysis. The calculated F – ratio is 8.94 which is significant at 1% significance level ($p<0.001$) and supports the reliability of the explanatory power of the model.

Table 6: Summary of Regression Results

Dependent var.	Independent var.	R^2	β - Beta	T-sig.	F-value, sig.
	Tangibles		.235	0.001	
	Reliability		.081	0.260	
	Responsiveness	0.19	-.062	0.502	8.94 , <0.001
	Assurance		.082	0.149	
	Empathy		.159	0.007	

The econometric result of regression analysis reveals that tangibility has shown the highest regression coefficient of 0.235 with the 0.01% level of significance. Hence, tangibility can be considered as the best predictor in determining the brand equity. This was followed by empathy with beta value of 0.159, which is significant at 1% level of significance. However, other independent variables were not found as significant variables. The relationship hypothesized in H_1 is supported in the estimated structural model. As shown in table, perceived quality has significant positive effects on brand equity ($\beta = 0.493$, t-value = 7.458). Hence, H1 is supported.

From the analysis given below in the table, it was found that customer loyalty has significant positive relationship with brand equity. Therefore, H_2 is accepted based on following results in the table of regression analysis; the R^2 value of 0.31 in model summary table indicates that 31.0 percent change in dependent variable customer loyalty is explained by independent variable brand equity. As shown in table, brand equity has significant positive effect on customer loyalty ($\beta = 0.593$, t-value = 5.070). Hence, H2 is supported.

Table 7: Summary of regression results (n = 196)

Dependent var.	Independent var.	R^2	β - Beta	T-sig.	F-value, sig.
	Awareness		.959	.000	
	Attitude		-.202	.045	
	Prestige	0.51	.168	.168	38.52, <0.001
	Trust		-.331	.002	
	Commitment		.119	.138	

The coefficient of determination for the customer loyalty is 0.51, which means that in total the five independent variables explain 51% of the change in the dependent variable (customer loyalty).

The F value in the Table **7** equals to 38.52%, which means that the model was best fitted. Relationship of dependent and independent variables is seen through the value of t. It shows the impact of independent variables on the customer loyalty (i.e., the dependent variable). In this research study, the t-value for Awareness and Trust is high and this shows that these have a comparatively higher impact on customer loyalty.

Brand equity mediates the relationship between perceived service quality and customer loyalty

Table 8: Summary of regression results (n = 196)

Independent Variable	**Brand equity(Mediator)**	**Customer loyalty (Dependent Variable)**	
	Model 1	Model 2	Model 3
Perceived quality	0.4933*	0.5257*	0.2801*
	1st equation	2nd equation	3rd equation
Brand equity			0.4979*
			3rd equation

*p<0.001

According to the findings from the table 8 above, perceived quality as an independent variable significantly affects the brand equity as a mediator in equation one; perceived quality as an independent variable significantly affects the customer loyalty as a dependent variable in equation two; both perceived quality as an independent variable and brand equity as a mediator considerably impacted the customer loyalty as a dependent variable. Hypothesis 3 (H3) is supported because the beta value of perceived quality in equation three (beta=0.2801) is smaller than the beta value of perceived quality in equation two (beta=0.5257), diminished by 0.2456 (0.5257-0.2801). This indicates that brand equity mediated the relationship between perceived quality of care and loyalty intention of the customer.

Discussion

Perceived Quality of care is well-known standard attribute used all over the world to assess the quality of care given to the customers at the healthcare institutions. This was assessed through five sub domains that included 28 items. It consists of Responsiveness, Empathy, Tangibility, Reliability and Assurance sub domains. Perceived Quality dimension is a very subjective matter and it differs from one patient to another, one customer to another and also depends a lot on Socio-Demographic factors. Nevertheless, in this study researcher observed that socio-demographic factors do not have a significant influence on the patients. Employment status of the respondents revealed that there were people belonging to all the social classes in

our society and it once again confirms that socio demographic factors do not have significant influence on the patients seeking care at LRH.

Responsiveness is one of the sub domains used to measure perceived quality in the study and it has been identified as one of the intrinsic goals of health care system. According to Parasuraman et al. (1998), responsiveness is the employees' expressed willingness to help customers and provide quick service. The study revealed that with mean value of 3.51, responsiveness of the staff of the LRH towards its customers is reasonable. However, when compared to other sub domains, findings revealed that responsiveness is one of the areas that need improvement.

According to Boshoff and Du Plessis (2009) in study done in South African Public Hospitals physical environment in which the service is delivered, internal environment, parking facilities, availability of equipment, cleanliness and staff attire are some factors which directly affect the patients perception on the quality of the service of the hospital. The majority of respondents in the study agreed that Lady Ridgeway Hospital has up to date equipment, visually appealing physical facilities, well-dressed employees, and that all clinical investigations are done in the hospital. Majority of them said that there was no shortage of drugs in the hospital.

David and Marc Berg (2011) explained that reliability of the hospital depends on several factors and organization culture and accountability of the hospital staff are two key factors in this domain. Reliability is another sub domain used in the study to assess perceived quality of care by customers. As shown in the study LRH is a reliable organization. This was confirmed by large majority of respondents agreeing with an overall mean value of 4.31. Study also revealed that customers believe LRH to be an organization with high level of assurance where employees are trustworthy, polite, and they feel safe in employees' hands. Confirmation to this was the overall mean value of 4.47.

Empathy, another sub domain of the perceived quality of care, majority of responses were close to neutral and overall mean value for sub domain empathy was equal to 3.06. This indicates that empathy towards customer needs to be improved as a priority in the hospital. In overall perceived quality of care in the Lady Ridgeway Hospital found to be good since majority with mean value closer to 4.

According to Alwi (2009) loyalty has a positive propensity for an organization or brand. However, satisfied customers are not always loyal and this was revealed through a satisfaction survey. Burke (2006) suggested that loyalty is built through the entire experience of the patient. She was in the opinion that it is not difficult for a doctor to make patient happy. Though to the subjective question of whether they would switch the institution in the future, responses were closer to neutral, the greater majority agreed that they prefer LRH and it is the first choice when deciding about the treatment for their sick children. The majority also stated that they generally visit this hospital and has no hesitation to recommend the hospital for their friends and relatives. Overall, mean value closer to 4 confirms the loyalty of customers towards Lady Ridgeway Hospital.

Brand equity refers to the value of a brand. Brand equity in healthcare is built through the continuous accumulation of thoughts, feelings, opinions, and behaviors regarding a hospital or health system based on the experience it provides the customer. According to Aaker (1996) brand equity is a multidimensional construct that consists of brand loyalty, brand awareness, and other proprietary brand assets. The researcher in this study argued that brand equity has mediator effect between service quality and loyalty intention of customers as well as brand equity positively influences patient loyalty. In addition, researcher was of the view that good service quality influences brand equity. Brand equity was assessed by five sub domains namely brand awareness, brand attitude, brand prestige, brand trust and brand commitment. Greater majority of respondents confirmed the high level of brand equity among customers of the hospital. The mean scores for each sub domain were above 4 and overall mean was equal to 4.2. Regression analysis showed that 19% variation in brand equity is explained by the perceived quality variables used in the regression analysis. It showed that tangibility is the best predictor in determining brand equity and this was followed by empathy, which is less significant. Analysis confirmed that perceived quality has significant positive effect on brand equity. Regression analysis also confirmed that customer loyalty has significant positive relationship with brand equity. Accordingly, the study revealed that factors such as awareness and trust are the areas that have the highest impact on customer loyalty.

The study revealed that perceived quality as an independent variable significantly affects the brand equity as a mediator and perceived quality as an independent variable significantly affects the customer loyalty as a dependent variable. In addition, both perceived quality as an independent variable and brand equity as a mediator considerably affected the customer loyalty as a dependent variable. Therefore, study concluded that brand equity does act as a positive mediator between perceived quality and customer loyalty and that patient's loyalty greatly influenced by the perceived quality of care and brand equity has a significant positive effect on patient's loyalty towards Lady Ridgeway Hospital, Colombo.

Conclusions

This study was conducted on the framework of perceived service quality and its relationship with patients' loyalty and mediating effect of the brand equity on the relationship between perceived quality and patients' loyalty. The study findings revealed certain significant outcomes relating to patient loyalty and perceived quality. The study revealed that socio demographic factors have no influence when seeking treatment from LRH and customers of the hospital included all layers of the society from poor to rich and from less educated to people with higher education etc. High and positive perception towards hospital by the patients points outs their preference in seeking treatment from this hospital. Customer loyalty was also found to be higher among hospital customers and this was clearly confirmed by the analysis. Results also revealed that perceived quality of care has positive effect on the patient's loyalty towards hospital, hospital has a good Brand image, and it plays mediating role in this relationship. Furthermore, findings suggest that patient's loyalty mainly depends on the qualitative aspects of the services provided and not on the socio-economic factors of the patients. Based on the

findings of this study, it can be suggested that the government hospitals should start programs to improve attitudes of and develop soft skills of the staff in order to make them think more positively to further improve the service quality of the patients care services.

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