

## ADMINISTRATIVE CHALLENGES ASSOCIATE WITH SERVICE QUALITY OF NON-COMMUNICABLE DISEASE (NCD) CLINICS

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### ABSTRACT

Non-communicable diseases (NCDs) constitute a substantial portion of the healthcare burden in Sri Lanka. In the context of the rapidly evolving healthcare industry worldwide, it is crucial to evaluate the quality of healthcare service delivery and patient satisfaction. An analytical interventional study was conducted across four Divisional Hospitals in Nuwara Eliya district, comprising three distinct phases. The pre-intervention phase involved assessing patient perceptions of service quality using the SERVQUAL service evaluation model. The post-intervention phase assessed the impact of these changes based on a results framework. The study revealed a significant improvement in perceived service quality across various dimensions, including Responsiveness ( $t = 43.0$ ;  $p < 0.001$ ), Empathy ( $t = 5.23$ ;  $p < 0.001$ ), Reliability ( $t = 5.32$ ;  $p < 0.01$ ), and Tangibles ( $t = 18.6$ ;  $p < 0.001$ ). Notably, all patients received blood pressure and fasting blood sugar checks following the intervention. The evaluation also demonstrated the intervention's alignment with ongoing programs and improved effectiveness in service delivery. The pre-intervention phase identified deficiencies in service quality. An intervention package was developed and successfully implemented to address these shortcomings. The post-intervention phase witnessed a substantial enhancement in service quality, reflecting the potential for improving NCD clinic services in Sri Lanka. This study serves as a valuable reference for healthcare policymakers and providers seeking to elevate the quality of care in NCD clinics.

**Keywords:** Service Quality, NCD clinics

### INTRODUCTION

NCDs are the dominant chronic health problems in Sri Lanka, which are the leading causes of mortality, morbidity, and disability and utilize huge amounts of health resources (1,2). They are classified into two types acute NCDs and chronic NCDs. Cardiovascular diseases, cerebrovascular diseases, hypertension, diabetes mellitus, and chronic renal diseases are considered chronic NCDs (2). NCDs are responsible for 74% of all deaths that occur on a global scale and more than 75% of all fatalities from NCDs and 86% of the 17 million people who passed away before the age of 70 take place in countries

with low and middle incomes (3). When considering the Sri Lankan context, more than 80% of all deaths reported in the country were due to NCDs. It is estimated that 120,000 people die prematurely in each year due to NCDs in Sri Lanka. In addition, hospitalization due to ischaemic heart disease and diabetes mellitus has shown a steady rise over the last two decades (4).

Primary health care services (PHC) provided in Sri Lanka are broadly divided into preventive and curative services. Preventive care is provided by the Medical Officer of Health (MOH) system and curative services are provided by Primary Medical Care Units (PMCU), Divisional Hospitals (DH) type A, B, and C and Outpatient Departments (OPD) (5). The inclusion of Healthy Lifestyle Centers (HLCs) at the PHC level has increased public access to preventive services. Studies comparing NCD services in Sri Lanka to those in other Lower Middle-Income countries (LMICs) have found that more primary healthcare facilities in Sri Lanka have access to NCD services and medications (6).

Service quality is defined as "the degree of excellence, superiority of kind, and a distinguishing attribute" and it is a measure of how well a service is delivered against customer expectations (7). Healthcare is considered to be one of the fastest-growing industries in the current service sector and even though all the hospitals provide the same type of service, the level of service quality is not the same (8). The service satisfaction is based on the customer's own experience, and good quality would lead to customer satisfaction. The perceived service quality is a global judgment, or an attitude related to the superiority of the services, though satisfaction is directly related to specific transactions (7).

In Sri Lanka, the Directorate of Healthcare Quality and Safety (DHQS) the apex body of healthcare quality and safety, developed a quality supervision tool with the participation of relevant stakeholders. According to it the Regional Director of Health Services (RDHS) needs to carry out supervisory visits and needs to send a report to DHQS every quarter for further review (9).

The goal of primary health services in Sri Lanka is the provision of healthcare of good quality, free at the point of delivery, and ensuring equitable coverage. Anyhow, the health system faces new challenges due to the demographic, epidemiological, and social transitions that the country is experiencing. Underutilization of primary-level curative care institutions, a culture of self-referral, and a lack of an effective referral mechanism which has resulted in bypassing the closest primary care institution are the key issues that the current health system is facing and at the same time, care provision is episodic and lacks continuity (2). To address these aspects, it is important to assess the service quality of non-communicable disease (NCD) clinics in Sri Lanka as an initial step.

## METHODS

In this study, conducted in selected Primary Care Institutions (PMCI) in Sri Lanka's Nuwara Eliya district, the focus was on enhancing service quality in Non-Communicable Disease (NCD) clinics. Ethical clearance was obtained, and data collection occurred from August 2021 to December 2022. The research comprised three phases: pre-intervention, intervention, and post-intervention. In the pre-intervention phase, patient perceptions of service quality were assessed using the SERVQUAL model, and gaps were identified through a specially designed questionnaire. Data from clinic records were also analyzed. Based on these findings, an intervention plan was developed in collaboration with stakeholders. Changes included infrastructure improvements, administrative enhancements, and communication facilitation. The intervention was evaluated using the same methods post-implementation. Data were meticulously analyzed using statistical tools. Throughout the study, stringent measures were taken to ensure patient privacy and confidentiality.

## RESULTS

The total sample size was 422. Most of the sample consists of those less than 75 years old. Also, there were more females than males in both pre-interventional (females: 56.6%; n= 239, males: 43.4%; n =183) and post-interventional samples (females: 56.2%; n = 237, males: 43.8%; n= 185). Also, most (78.4%) of the sample were married. It is noteworthy that 84.3% (n = 355) were educated up to GCE (O/L). When considering the age categories of pre and post-interventional groups, a statistically significant association has been noted (Table 1).

Only Hangeranketha PMCI had suggestion boxes for customer feedback and others were not. Neither of the four PMCIs had facilities for differently abled patients (Ramps), did not analyze customer feedback, had no established appointment system at NCD clinics, did not have an adequate number of chairs at the NCD clinics, and had no new water dispensing mechanism at NCD clinic (Table 2). Both the measuring of blood sugar and blood pressure have improved during the post-intervention phase. Compared to only 26.4%(n=109) getting their blood sugar measured during pre-intervention, 95%(n=400) got their blood sugar tested during the intervention (Table 3). When comparing the pre-interventional and post-interventional status, the overall responsiveness have been shown statistically significant improvement.

**Table 01: Socio-Demographic Characteristics of the Patients**

Characteristic	Frequency (%)		Significance		
	Pre	Post	$\chi^2$	df	p
<b>Age</b>					
35-44 Years	73(17.3)	54(12.8)			
45-54 Years	87(20.6)	133(31.5)			
55-64 Years	110(26.1)	132(31.3)	27.051	4	<0.001
65-74 Years	114(27.0)	87(20.6)			
>75 Years	38(9.0)	16(3.8)			
<b>Gender</b>					
Male	183(43.4)	185(43.8)	0.019	1	0.945
Female	239(56.6)	237(56.2)			
<b>Marital status</b>					
Married	331(78.4)	329(78.0)			
Unmarried	28(6.6)	32(7.6)	0.305	2	0.859
Divorced	53(12.51)	53(12.51)			
Widowed	10(2.36)	8(1.89)			
<b>Education levels</b>					
No education	26(6.2)	31(7.3)			
Up to O/L	355(84.3)	374(88.6)	10.949	3	0.015
A/L	35(8.3)	15(3.6)			
Higher education	5(1.2)	2(0.5)			
<b>Occupation</b>					
Employed	243(57.6)	221(52.4)			
Unemployed	156(37.0)	181(42.9)	3.107	2	0.212
Retired	23(5.5)	20(4.7)			
<b>Total</b>	<b>422(100.0)</b>	<b>422(100.0)</b>			

**Table 02: Availability of Selected Infrastructure Facilities in the Four PMCIs**

	Primary Medical Care Institute							
	Hanguranketha		Mathurata		Gonaganthenna		Muloya	
	Yes	No	Yes	No	Yes	No	Yes	No
Facilities for differently abled patients (Ramps)		X		X		X		X
Availability of suggestion boxes for customer feedback	X			X		X		X
Whether the customer feedback is analyzed		X		X		X		X
Appointment system established at NCD clinics		X		X		X		X
Availability of adequate chairs at NCD clinics		X		X		X		X
Availability of new water dispensing mechanism at NCD clinics		X		X		X		X
Presence of condemning items in the clinic premises of NCD clinics		X		X		X		X

**Table 03: Blood pressure and Blood Sugar Measurement during the Last Clinic Visit**

	<b>Pre-intervention</b>	<b>Intervention</b>
	<b>Frequency (%)</b>	<b>Frequency (%)</b>
<b>Blood pressure</b>		
Yes	418 (99.28)	421 (100)
No	3 (0.71)	0
<b>Total</b>	<b>421 (100)</b>	<b>421 (100)</b>
<b>Blood sugar measured</b>		
Yes	109 (26.4)	400 (95.0)
No	312 (73.6)	21 (5.0)
<b>Total</b>	<b>412 (100)</b>	<b>421 (100)</b>

## DISCUSSION

The study was conducted in four PMCIs in the Nuwara Eliya district regarding the service quality gap corresponding to the perception and expectations of the patients. The study has established significant associations with the Service Quality Gap of Current Clinic Services as perceived by patients (SAQSQGP) in the areas of responsiveness, empathy, reliability, and tangibility.

Fraih et al., (2016) (10) have defined responsiveness as the level of receptiveness and openness of healthcare professionals including their sensitivity, awareness, and quicker positive responses and it has been identified as one of the most significant service quality gaps in the SERVQUAL model. We noted the highest gap in Mathura Hospital (-0.26) and the lowest in Gonaganthenna Hospital and following the interventions the Gonaganthenna Hospital showed the most significant improvement. A similar study conducted in Iran has identified that rapid service and making sure the treatment is available to play an important role in improving responsiveness (11).

It defines empathy as the ability of the hospital staff to understand and share feelings with the patients and the compassion shown towards them (10). Empathy is a paramount aspect of understanding and respecting patients' emotions and developing good quality interpersonal communication to provide a better service with patient comfort and satisfaction (12). Here, in the pre-interventional phase, the lowest mean quality gap was shown in Hanguranketha Hospital, and following the interventions, the aspects of

empathetic listening and information providing were improved, but the contrary and courtesy have deteriorated. This negative gap in empathy may be due to poor communication between physicians, nurses, and other medical staff in NCD clinics.

The tailor-made approach to individual patients and the up-to-date knowledge and awareness of medical techniques among healthcare professionals is a must to give the best results in assurance (13). The highest mean service quality gap in assurance was noted in Mathura Hospital and even after the intervention, it could not observe any significant improvement in overall assurance in all hospitals.

The category of reliability was assessed by the sub-groups of accurate record keeping, keeping into the promises made to patients, and the sincere interest shown in problems. Before the interventions, accurate record-keeping was greatly associated with SAQSQGP and after the interventions, all three aspects were improved. Reliability is known as the execution of relevant and appropriate medical services at a scheduled time including the high commitment of the staff and maintenance of accurate medical records (14). And Nadi et al., (15) (2016) have recognized reliability as one of the most significant domains in patient satisfaction and have noted similar findings as our study with a larger gap between actual and expected results. The tangibility, the attractive environment, and the services being offered at high levels are regarded as the few most important factors that patients decide to use the hospital outpatients' clinics. According to Lee et al., (16) (2007), patient expectations in the tangibility domain had a relatively smaller gap, yet it was recognized as one of the most serious problems experienced by Korean hospitals. In our study, before the interventions, there were significant SAQSQGP gaps in cleanliness and tidiness and the modern appearance of the organization, but following the interventions, all three aspects were improved.

Even though, it is challenging to minimize the gap between expected and perceived service quality gaps due to the socio-demographic differences existing between the person who delivers the services and the client our study results have demonstrated significant improvement in service quality following interventions.

## CONCLUSIONS

This study conducted in Nuwara Eliya's Primary Care Institutions (PMCI) has identified significant service quality gaps in Non-Communicable Disease (NCD) clinics, particularly in responsiveness, empathy, assurance, reliability, and tangibility. The interventions implemented have shown promising improvements in responsiveness, although challenges remain in enhancing assurance. Notably, empathy, a crucial aspect of patient satisfaction, displayed mixed results, with some aspects improving and others declining. Reliability, encompassing accurate record-keeping and commitment, significantly improved, emphasizing its importance in patient satisfaction. Tangibility, related to the

clinic environment, also saw notable enhancements post-intervention. These findings underscore the importance of addressing specific dimensions to elevate healthcare service quality and patient satisfaction, offering valuable guidance for healthcare providers seeking to improve their services.

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