THE LEVEL OF PATIENT SATISFACTION AND CONTRIBUTING FACTORS IN COVID-19 INTERMEDIATE TREATMENT CENTERS IN SRI LANKA

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ABSTRACT

Here we discuss the overall level of satisfaction of patients at COVID-19 treatment centers and distinguish the dimensions, which have the most significant influence on overall satisfaction. The data were composed using an interviewer-administered questionnaire via using distant communication mode and 206 participants covering 55 treatment centers across Sri Lanka were interviewed from 01st March 2021 to 01st April 2021 and analyzed using multiple linear regression analysis. The findings implicit that there is a positive relationship between dimensions of satisfaction on food, sanitary and toilet conditions, and patient care and management with the overall satisfaction of patients which is the dependent variable in this study. The satisfaction of

patient care and management has a higher significant influence on overall satisfaction. In multiple linear regression analysis, all independent variables have a positive association with the dependent variable while having a negative intercept. These findings will admit health officials to have a better understanding of aspects, which have a greater and weaker influence on the overall satisfaction of COVID-19 patients and take required measures.

KEYWORDS: Global Pandemic**,** Overall satisfaction, Multiple linear regression

INTRODUCTION AND BACKGROUND

COVID-19 is an acute respiratory tract infection emerged in December 2019. It has flu-like symptoms, such as fever, cough, breathing difficulties, fatigue, and muscle pain. COVID-19 was recognized as a highly infectious disease and can be a life-threatening disease by World Health Organization and was declared as a global pandemic on 11th March 2020 by WHO and declared countries to practice social distancing, frequently washing hands, and decrease the population density in healthcare premises to minimize community transmission of COVID-19 as ways of preventing and mitigating pandemic (Ferguson et al. 2020).

Sri Lanka is situated in the South Asian region in close proximity to southernmost tip of India and has a population of 21.9 million (Central Bank of Sri Lanka 2020). The first COVID-19 case in Sri Lanka was reported on 28th January 2020 and since then up to 31st of December 2021, number of total confirmed cases are 586,746, number of deaths are 14,962, and 560,313 are reported as recovered cases (Ministry of Health, 2021).

The different response of Sri Lanka towards COVID-19 prevention and mitigation is a strong and major focus on preventive approach and contact tracing with application of existing resources in a rational manner. All patients tested COVID-19 positive were admitted to designated hospitals and whether patients were asymptomatic or mildly symptomatic, all were admitted for isolation, ensuring that COVID-19 spread was kept under tight control (Karunathilake et al. 2020; WHO 2020).

Although this approach was proven effective during early phase of pandemic, with time became evident that it is not sustainable due to rapid increase in number of COVID-19 confirmed cases since October 2020. This caused due to expected deviation from stringent control measures caused first major surge faced by country (WHO 2020; Epidemiology Unit 2020).

During this surge, high risk of beyond capacity of health system due to rapid rise in number of COVID-19 patients and establishment of smooth functioning healthcare services was problematic due to unmet needs of patients. It was no longer possible for all positive tested patients to admit and isolate in designated hospitals. Ministry of Health (MoH) was compelled to take exceptional measures to face this unforeseen situation. The concept of forming Intermediate Care Centers (ICC) with facilities to isolate large numbers of patients with minimum or no symptoms was introduced in October 2020 Those were initiated with a basic care level service during a very short period due to rapidly rising positive numbers.

The patients were distributed to 4 levels of COVID care centers: Level 1 centers were COVID tertiary care hospitals with ICU facilities, Level 2 COVID centers were COVID secondary care hospitals such as district hospitals and base hospitals in Sri Lanka. Similarly, Level 3 centers were COVID ICCs and Level 4 centers were primary care hospitals with intermediate care facilities.

When developing these centers many aspects were addressed such as psychological, socio- cultural and demographical and other associated limitations have to be considered in addition to management of service and technical capacities to mitigate disease status. Therefore, to develop and improve further, care level and overall service, it is vital to assess and evaluate COVID-19 patients' experience and satisfaction who were isolated/ treated in these facilities.

Seeking for treatment is a patient's right and provision of required and accepted healthcare at an institution with comfort is responsiveness to patients' need. The extent or degree to patients are pleased with healthcare facilities including both inside and outside is patient satisfaction (Alkureishi et al. 2016).

This study aims to assess patients' overall satisfaction and associated factors among COVID-19 patients admitted in healthcare facilities in Sri Lanka.

Therefore, this survey was conducted to assess and evaluate patients' experience and satisfaction with service provided at COVID-19 treatment and quarantine facilities run by Sri Lankan government.

METHODOLOGY

The main focus of this research was to identify how assess how the level of satisfaction regarding food and nutrition, sanitary facilities satisfaction, and patient care and management impact on overall satisfaction of patients in designated treatment centers. This study was conducted during the period from 01st March to 01st April 2021, a sample of 206 including 115 males and 91 females within the age of 13 to 73 years were selected from 55 island- wide COVID centers. The interviewer selected approximately 5 patients from each of these designated COVID treatment centers. The data collection was done through an interviewer administered questionnaire via distant communication (telephone calls). The tool was prepared with both direct and indirect questions and was piloted among 10 people. Patient's care level experience was assessed by - questioning on satisfaction in basic needs and patient care management in which main four domains were: food and nutrition, toilet and sanitary facilities, patient care and management. The overall satisfaction was assessed to improve service and technical care level for COVID -19 patients in Sri Lanka. Hence, food satisfaction, sanitary satisfaction, patient care and management were considered as independent variables and overall satisfaction of patients' was considered as dependent variable. To measure satisfaction, a five-point Lickert scale scored from 1 to 5 (1= Highly satisfied, 2= Satisfied, 3= Much satisfied/ dissatisfied, 4= Dissatisfied and 5= Highly dissatisfied).

The unit of analysis is the country itself i.e. Sri Lanka. The regression model has been used to analyze more comprehensively by using SPSS 16.0 software application.

RESULTS

According to collected data, three main domains were identified i.e., food and nutrition, sanitary facilities, and patient care and management. The perceived level of satisfaction regarding food and nutrition is as summarized in figure 1.

[CHART]

Figure 1: The satisfaction on food

Majority of patients who were at COVID-19 treatment centers were highly satisfied with facilities given which accounted 64% of the selected sample and more importantly not a single person has felt highly dissatisfied with food provided is a positive dimension. Qualitative comments confirmed that patients were getting adequate amount of good quality food. In centers where patients were less satisfied, patients commented that low quality food with regards to taste, nutritional value and variety was given, and food was not appropriate for children, and insufficient drinking water was given.

[CHART]The level of satisfaction regarding sanitary facilities is provided in the figure 2.

Figure 2: The level of satisfaction regarding sanitary facilities

The majority (63% of total patients) were highly satisfied with sanitary conditions whereas none of the patients felt highly dissatisfied is a positive aspect indicating that sanitary facilities provided was at a satisfactory level.

In qualitative comments, patient mentioned that they were provided with adequate number of functioning toilets, cleaning materials, and water supply was maintained throughout the day. However, in some centers, patients have commented on not having sufficient toilet facilities and being old or broken and not being provided with enough cleaning materials.

The patient care and management by health staff is another important dimension considered in this study. The degree of satisfaction derived by patient on patient care at treatment centers is summerised in figure 3.

[CHART]

Figure 3: The satisfaction on patient care and management

Majority (71% of total number of patients) were highly satisfied whereas none of the patients felt highly dissatisfied with patient care which shows that patient care and management is at a satisfactory level at COVID-19 treatment centers.

When analyzing qualitative aspect, certain issues existed with related to admission of patients and treating towards ill patients at treatment centers.

When considering dependent variable i.e. overall satisfaction, level of satisfaction gained by patients is shown as in figure 4.

[CHART]

Figure 4: The overall satisfaction of patients

Accordingly, 67% of total number of patients is highly satisfied with overall conditions and facilities provided at treatment centers whereas 2% of patients have derived a high level of overall dissatisfaction. This implies that there is a considerable and wide gap in between services provided at centers needs to be improved to cater a satisfactory level of service which meets desired level of patients' satisfaction.

Those whose overall satisfaction is at an unsatisfactory level mainly commented on lack of entertainment, recreational activities, inadequate phone charging points, and also commented negatively on ambience, garbage disposal and waste disposal.

Table 1: Correlation of variables

Variable	Correlation with overall satisfaction (r)
Food	0.629
Sanitary facilities	0.632
Patient care and management	0.648

According to computed Pearson two- tailed correlation analysis, independent variables of food satisfaction, sanitary satisfaction, and patient care and management satisfaction has a positive correlation with dependent variable i.e. overall satisfaction of patients

Table 2: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of Estimate
1	.832[a]	.693	.688	.470

The R- squared is the goodness- of- fit measure for linear regression model and it measures the strength of relationship between model and dependent variable on a convenient scale of 0- 100%. In this study (0.639) 69.3% is recognized as a 'good R^2 value' which explains variance of dependent variable i.e. is overall satisfaction of patients'.

Table 3: ANOVA Analysis

Model	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	100.645	3	33.548	151.672	.000[a]
	Residual	44.680	202	.221		

Total	145.325	205

ANOVA or analysis of variance is a very useful tool to check how well model fits data. In above table, the df is number of dependent variables in regression model i.e. 3 which are food satisfaction, sanitary satisfaction, and satisfaction on patient caring and management. The F value is significant at 151.672 and significance level of .000 implies that linear regression model fits with data as significance level is below 0.05 level.

The significance or p- value below 0.05 indicates that it is 95% confident that slope of linear regression is not zero and linear relationship between dependent and independent variables is significant. Hence, F- value is significant at 151.672 and p- value of .000 implies that linear regression model fits data.

Table 4: Summary of coefficients

Model	Model	Unstandardized Coefficients
		B
1	(Constant)	-.264
	Satisfaction on food	.262
	Sanitary facilities	.378
	Patient care and management	.561
a. Dependent Variable: Overall satisfaction	a. Dependent Variable: Overall satisfaction	a. Dependent Variable: Overall

Based on Table 4, independent variables of food satisfaction, sanitary and toilet conditions satisfaction, and satisfaction on patient care and management have a positive relationship with dependent variable. Further, there is a negative constant or intercept value.

DISCUSSION

Due to current COVID-19 pandemic, quality of healthcare provision and patient satisfaction has been greatly affected. The degree of evaluation to patients are fulfilled with provided healthcare services is clinically significant, as there is a more possibility that patients are to comply with treatments provided by respective healthcare providers (Carr-Hill 1992). The healthcare systems in most of the low- resourced countries suffer due to severe shortages in health, economy and several aspects (WHO 2013; Karunathilake 2015).

The main aim of this study was to assess satisfaction of four domains, food, sanitary facilities, patient care and management, and overall satisfaction was the dependent variable. Majority was highly satisfied in every component. These findings are comparable with studies conducted in similar contexts ((Deriba et al. 2020).

The high satisfaction regarding food is compatible with services provided. The responsibilities' of maintaining sanitary facilities were given to patients and they drew up rosters and taught for new comers. This process of empowerment explains high level of satisfaction.

The level of patient care and management satisfaction was the highest compared to other two domains. This can be explained by well-established process from admission to discharge (Deriba et al, 2020). After the initial assessment the high-risk and complicated patients were identified and referred to specialized care. During stay, patients' vital parameters were regularly monitored. Continuation of routine medications for chronic illnesses was arranged. It was important to provide accurate information, health education and psychological support to patients.

The isolation process and illness led to severe stress for patients but it is part and parcel to provide the required service.

CONCLUSIONS AND RECOMMENDATIONS

The overall level of patient satisfaction is high. There are areas for improvement in all four components assessed in patient's satisfaction at COVID-19 treatment centers. Furthermore, it is essential if psychological

support is provided for patients and health care providers within centers to obtain a better outcome of service. In terms of patient care and management, teleconferencing and telemedicine modalities can be employed to reduce the burden on the health system (Nagra, Ehsan, Ahmad, Hussain & Bakar 2021). The possibility of home-based management of asymptomatic patients should be considered.

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