

Original Research Article

Study of patient satisfaction regarding linen and laundry services in a tertiary care hospital of North India

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Received: 04 November 2022

Accepted: 12 December 2022

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ABSTRACT

Background: Linen and laundry services are meant to provide clean, comfortable and hospitable services to the patients. The clean linen inculcates a sense of psychological confidence in the patients and the public and enhances their faith in the services rendered by the hospital. Objective was to study the provision of efficient linen and laundry services in a tertiary care hospital of north India.

Methods: A cross-sectional study was conducted in linen and laundry services of SMGS Hospital Jammu from October 2020 to March 2021. Using convenient sampling, 300 patients or their attendants were interviewed about their satisfaction levels regarding provision of linen and laundry services. Another questionnaire was administered to the laundry plant staff to enquire about their satisfaction and motivation levels. The data was analysed and chi-square was the test of significance.

Results: The findings of the study revealed an overall satisfaction rate of 91.9% among the patients/attendants regarding provision of efficient linen and laundry services. Time of recruitment and nature of job were the variables found to be significantly associated with job satisfaction among the laundry staff workers ($p < 0.05$).

Conclusions: High levels of satisfaction among the end users reflect quality of the services provided by this tertiary care hospital. Levels of motivation and job satisfaction were equally adequate among the laundry workers.

Keywords: Linen and laundry services, Quality, Satisfaction, Tertiary care teaching hospital

INTRODUCTION

Patient satisfaction with quality services has become the buzz word in this modern era of hospital management. The healthy outcome for a patient not only depends on efficient and appropriate medical, nursing and allied care but also includes good hygienic food, clean linen, safe environment and good interpersonal relationship.¹ The support services in any major health institution play a key role in facilitating the patient care process. In this context, linen and laundry is an important cogwheel in the support services which ensures prevention of hospital infection as well as enhance the overall reputation of the healthcare

facility in the public domain. Efficient linen and laundry services thus help both in hospital marketing as well as its ability of rendering quality medical care.²

Linen in hospital term is meant for clothing of the patient, medical staff and clothing used during patient care and includes mattresses, pillows, bedsheets, blankets, etc. Provision of clean linen gives psychological boost in patients and the public and enhances faith in healthcare services rendered by the healthcare facility.³

During review of literature, it was found that not a single study had been conducted about linen and laundry

services in Jammu Province of UT of Jammu and Kashmir. It was in this context that the present study was planned and conducted in SMGS hospital of GMC Jammu to assess the satisfaction levels about quality of linen and laundry services.

Objective

To study the patient satisfaction about linen and laundry services in a tertiary care hospital of north India. To assess the job satisfaction among the laundry workers.

METHODS

The present cross-sectional study was conducted in Shri Maharaja Gulab Singh (SMGS) Hospital, which is a part of tertiary care teaching hospital, Government Medical College Jammu. The study was carried out for six months from October 2020 to March 2021. The clinical specialties running in SMGS Hospital include gynecology and obstetrics, paediatrics, otolaryngology and dermatology in a set up with 750 beds.

Due permission was sought from Institutional Ethical Committee (IEC) GMC Jammu before the start of the present study.

The ultimate implication of any service is to deliver the desired results to the end users. The outcome parameters in the present study were both patient as well as staff satisfaction regarding provision of efficient linen and laundry services in SMGS hospital, GMC Jammu. During the study period, the interviews were conducted of the patients or the accompanying attendants at the time of discharge.

Convenient sampling method was used and a total of 300 interviews were conducted from patients or their attendants who were admitted in the four specialties of SMGS Hospital. These were 'exit interviews' conducted among patients/attendant after informed written consent was taken. A pre-designed and pre-tested questionnaire consisting of ten items was used to elicit the patient feedback. The feedback obtained pertained to various aspects of user satisfaction with the laundered products and its services. The questions were close ended with dichotomous response- either yes or no. Yes or positive response signified satisfaction.

Another questionnaire was administered to all the staff members who were working in the laundered section of SMGS Hospital, GMC Jammu. This questionnaire aimed to elicit the overall job satisfaction and motivation among the laundry workers. The association between various variables and satisfaction levels was also evaluated.

The data thus collected was entered into Excel sheet and analysed using SPSS version 20.0. The test of significance used was chi-square with $p < 0.05$ taken as significant.

RESULTS

Bed-occupancy rate

Ratio of actual patient days expressed as a percentage of maximum possible patient days (based on bed complement) during any given period.

Table 1: Bed occupancy rate of SMGS hospital during the study period.

Month	Total patients	Total beds	Bed occupancy rate
October 2020	12902	23250	55
November 2020	13510	23250	60
December 2020	14305	23250	62
January 2021	15313	23250	66
February 2021	15821	21000	75
March 2021	16938	23250	73

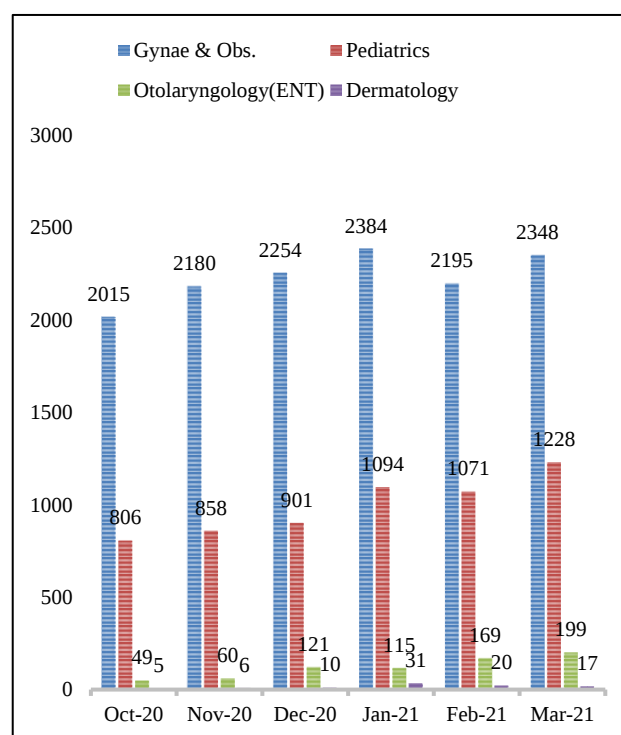


Figure 1: Patient admissions during the study period.

Table 1 shows that bed occupancy rate of SMGS Hospital was highest i.e. 75% during February 2021 followed by March 2021.

A total of 32 workers were employed in linen and laundry services in SMGS Hospital including 3 supervisors, 19 machine engineers and loaders. 12 workers were more than 40 years of age and only 6 had completed secondary school education. All the workers were males and 22 had received formal training. Only time of recruitment and nature of the job were found to be significantly associated with job satisfaction among the workers (Table 3).

Table 2: Patient responses to questions regarding satisfaction with linen and laundry services of the hospital.

Questions	n=300	
	Satisfied (%)	Dissatisfied (%)
Whether bed sheets were changed timely on daily basis in wards?	255 (85)	45 (15)
Whether color-coding schedule was being followed strictly in wards?	285 (95)	15 (05)
Whether bed sheets used were found torn out?	285 (95)	15 (05)
Whether any blood stains or dark spots were noticed on bed sheets?	276 (92)	24 (08)
Any bad or offensive smell emanating from the bed sheets used?	270 (90)	30 (10)
Any written record of available sets of laundry items was kept by staff on duty?	285 (95)	15 (05)
Whether immediate replacement of bed sheets on getting wet during any spilling was done?	255 (85)	45 (15)
Whether used up infected bed sheets were kept in closed-lid linen trolleys in wards?	270 (90)	30 (10)
Whether warm and clean blankets were provided during winter season?	297 (99)	03 (01)
Whether blankets & cover-sheets provided were torn out or had foul smell?	279 (93)	21 (07)

Table 3: Job satisfaction of staff working in linen and laundry services of SMGS hospital.

	Satisfied	Unsatisfied	Chi-square	P value
Age (years)				
<40	14	6	0.42	0.84
>40	8	4		
Gender				
Male	22	10	0.15	0.34
Female	0	0		
Time of recruitment				
<10 years	8	7	3.02	0.04
>10 years	14	3		
Qualification				
<12 th class	18	8	0.01	0.45
>12 th class	4	2		
Designation				
Supervisor	2	1	0.01	0.99
Machine engineer	13	6		
Loader	7	3		
Formal training received				
Yes	15	7	0.01	0.45
No	7	3		
Presence of chronic disease				
Yes	7	3	0.01	0.45
No	15	7		
Job nature				
Temporary	19	3	9.84	0.00
Permanent	3	7		

DISCUSSION

Linen and laundry services are at the heart of any health institution. Efficient provision of linen and laundry service goes a long way to satisfy both the patients as well as the staff members. These services are being

catered to 750 beds in SMGS hospital and the facilities like water, electric supply are as per standard engineering norms.^{2,4} The area provided to laundry section in this hospital measures 2700 square feet.

The findings of the study revealed that as far as satisfaction of end users i.e. patients coming to the hospital is concerned, an overwhelming 91.9% of the respondents were satisfied with the provision of linen services. These findings are in agreement with those reported by Singh et al from an earlier study conducted in Kashmir valley.⁵

In contrast, Shreenivas et al reported lower rates of patient satisfaction in various hospitals in India.⁶ Satisfaction levels of $\geq 95\%$ were reported by respondents regarding of warm/clean blankets during winter, colour-coding schedule and torn out status of bed sheets. Further the respondents reported 90% satisfaction levels when enquired about upkeep of bed sheets and any bad/offensive smell emanating from the linen.

A slightly lower rate of satisfaction (85%) was reported for services like daily change of linens and replacement of linen on getting wet in case of any spillage. Linen and laundry services has come of age with the advent of modern technology wherein linen is washed and dried in few hours as compared to days taken earlier when manual work was done.

When satisfaction levels of laundry workers were evaluated against socio-demographic variables, the results were found statically significant in the association with time of recruitment and job nature. Majority of the staff being working on a temporary basis in indeed a cause of concern. Time of recruitment (<10 years or >10 years) was not found to be significant in association with satisfaction levels of the staff members. In a study on laundry workers attitude towards healthcare industry in Trichy city, Sukumar et al reported that 81.5% of male

workers and 58.3% of female respondents had 10 years of experience in this field.⁷

The focus on healthcare quality is no longer just about the care and treatment that the healthcare facilities provided but how the patients experience this care has become a more important factor in defining quality healthcare. And quality hospital linens are essential in this continuum of care.

CONCLUSION

Laundry is crucial to the appropriate operation of a hospital and without clean linens, hospitals would not be able to provide the same high quality care environment that patients expect and that is needed by regulations and quality guidelines. High levels of patient satisfaction in the results of the present study should not lead to complacency among the staff members but should act as a morale booster to improve the shortcomings, if any.

Recommendations for providing efficient linen and laundry services

Favorable hygienic conditions for the laundry staff with regular check-up of their health in order to avoid any chances of occupational hazards.

Proper uniform or dress-code should be followed in laundry plant for maintaining discipline in the organization.

Laundry equipments should be properly maintained by concerned engineers hired by the contractor after making proper AMC/CMC agreements with the concerned company.

Laundry should be properly located at the basement or ground floor of hospital just adjacent to CSSD or dietary department in order to supplement the requirement of steam from the boilers installed there.

Laundry-plant should have proper water-connection for regular uninterrupted water-supply in the plant with suitable provision of hot water tank and boiler in the laundry.

Laundry-plant should have proper electricity-connection for providing uninterrupted power-supply with the provision of compatible control-panel for controlling power fluctuations.

Laundry-plant should have properly earthen all the heavy equipments/machinery to avoid any damage during power-flickering due to low-voltage.

STP plant should be constructed mandatorily in all the hospitals for proper drainage of laundry washings to the STP plant in order to avoid any water-pollution as per the guidelines of pollution-control board.

Trolleys carrying the infected/soiled linen from user departments should be properly covered with lids for avoiding any cross-infection during their transportation to laundry-plant.

Laundry plants should be properly sprayed for insect-control, rodenticidal chemicals and anti-termite measures for linen safety and to avoid any loss to hospital linen during storage.

Fire-extinguishers should be properly installed in laundry-plant to avoid any eventuality.

Chemicals used in laundry-process like detergents, bleaching powder, soaps, etc. should be of good quality to avoid any harm to the hands of operating-staff.

Hospital-linen should be of good quality. the fabric of linen should be 100% cotton or 70% cotton and up to 30% synthetic yarn.

Laundry in every hospital should have tailor posted there for mending/repairing/sewing of aprons and uniforms of hospital staff.

Hospital laundry should have a separate entry and exit of linen items in order to avoid any cross-infection during handling of linen by staff.

Every hospital should have properly established "linen control committee" which will be headed by a qualified administrator resulting in better control over various managerial issues.

Life-span of linen used in laundry-plant depends on overall availability of linen-sets. lesser the number of sets available for use, the smaller will be the life-span of linen.

Overall, 15-20% of linen becomes unusable after a period of 3 months. Replenishment of condemned-linen should be an on-going process after an average of 52-60 weeks.

Type of laundry system operating in a hospital determines the life-span of linen used. an in-plant system in bigger hospitals will ensure a longer life-span.

Any breakdown in laundry equipment/machinery may lead to 3-4% curtailment of surgeries in operation-theatres. it should be managed by replenishing the linen-items from other associated hospitals for smooth functioning of OT's.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Sharma RK, Gupta R, Gupta RK, Mahajan R, Kour T, Chowdhary N, et al. Study of patient satisfaction regarding linen and laundry services in a tertiary care hospital of north India. *Int J Community Med Public Health* 2023;10:287-91.