

# Estimation of patient perception on hygiene standards in a tertiary care hospital, West Bengal: A questionnaire-based study

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## ABSTRACT

**Background:** Maintenance of hygiene is very important to lead a healthy, disease-free life. Lack of hygiene increases the chance of communicable and non-communicable diseases. Wastes generated by the hospitals increase the chance of nosocomial infections. **Objective:** The present study deals with the patient's perception about hygiene and sanitation rendered by the hospitals. **Materials and Methods:** The present study was a questionnaire-based cross-sectional survey. The data were collected from the indoor patients admitted in the Department of Surgery, Obstetrics and Gynecology, and General Medicine during December 2016–January 2017 at a Medical College in Kolkata. **Results:** In the present study, a total of 150 patients were taken as study population, of which majority of them were female. The major age group of the study population was 32–39 years, 33 (22%). In the present study, 93.33% of patients responded that the food was hygienic, 90% of patients opined that all housekeeping staffs used their protective equipment while they were collecting the garbage in this hospital, and 78% of patients agreed that the dustbins were cleaned regularly. **Conclusion:** In order to improve patients' compliance and reduce the sufferings, evaluation of hospital hygiene is of utmost importance. Awareness programs should be implemented in hospitals and health-care centers about the importance and maintenance of hygiene. This would reduce the chances of hospital-borne infections not only for the patients but also for the hospital workers.


**KEY WORDS:** Hygiene; Nosocomial Infection; Questionnaire; Sanitation

## INTRODUCTION

Hygiene is the practice of maintaining cleanliness for the prevention of diseases and wellness of mankind. The practice and maintenance of good hygiene encourage good health, well-being of the individual as well as the society.<sup>[1]</sup> Methods that are commonly associated with maintenance of medical hygiene include safe disposal of medical waste, maintenance

of personal hygiene, cleaning up of the environment, providing healthy and nutritious food to the patients, sterilization of the instruments, and most importantly maintenance of sanitation. A developed and civilized society is known for its sanitation, cleanliness, and good hygiene practices. Reduction in the incidence of disease such as pneumonia, transmission of pathogen, and skin diseases can be achieved by following good hygiene practices.<sup>[2]</sup>

Maintenance of food hygiene is a priority to avoid infection. Microbiological status of the food should be evaluated for patients' safety.<sup>[3]</sup> Proper waste management of health-care waste is necessary to maintain hospital hygiene and reduce hospital-borne infections. Poor management of this waste will lead to various infections transmitted by air, direct contact, or vectors. "Hospital-acquired infection (HAI) or Nosocomial

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Infection” can be defined as infection acquired in hospital by a patient who was admitted for any other reason in the hospital. This type of infection occurs in a patient admitted to a health-care facility, in which the infection was not present or incubating at the time of admission.<sup>[4,5]</sup>

Till date, very few studies had been conducted to evaluate the awareness of maintenance of hygiene among doctors and nurses. A survey among inpatients and post-discharge patients in a hospital in the USA reported that patients were satisfied with the food served to them.<sup>[6]</sup> However, a similar study in Canada observed that patients were dissatisfied with the food quality and urged for improvement.<sup>[7]</sup> In Iran, a study was done among residential doctors and it was observed that there was moderate knowledge concerning hand hygiene among them. However, there was a significant lack in attitude and practice among these medical persons.<sup>[8]</sup> There was a huge lack of knowledge and attitude regarding hand hygiene practices among the health-care professionals in Bhopal city. There was a need of repeated training sessions regarding hand hygiene practices among the health-care workers to provide the current knowledge in the area with a behavioral change in attitudes and practices to reduce nosocomial infection.

## MATERIALS AND METHODS

### Study Type

This was a observational, cross-sectional, questionnaire-based study.

### Collection of Data

The study was conducted at a Medical College in Kolkata, West Bengal, India, in collaboration with NSHM College of Management and Technology, Kolkata. The data were collected from inpatients only. Opinions of the indoor patients of the Department of Obstetrics and Gynaecology, Surgery, and General Medicine of the hospital were collected through personal interviews using a standard questionnaire.

### Ethical Clearance

Ethical clearance from the Institutional Ethics Committee was obtained for the study. Verbal informed consent was obtained from the patients who had participated in the study.

### Study Period

The study duration was 2 months from December 2016 to January 2017.

### Study Subject

All patients, following the inclusion and exclusion criteria, admitted between December 2016 and January 2017 were requested to participate in the study. Patients who were

willing to participate and provided verbal consent were only included in the study.

### Inclusion Criteria

Patients of age 18–60 years were considered for the study.

### Exclusion Criteria

Patients of age <18 years and >60 years and patients’ relatives were not considered for the study.

### Methodology for Data Analysis

The questionnaire was prepared to evaluate the perception. Patients who were willing to participate in the study were interviewed based on the questionnaire. Each type of response was categorized according to Likert scale in five parameters ranging from 1 (strongly agree), 2 (agree), 3 (don’t know), 4 (disagree), and 5 (strongly disagree) and the counts of the responses were considered for analysis.

### Statistics

Data were calculated using Excel spreadsheet and analyzed using Statistical Package for the Social Sciences version 20.0 for Windows. Thereafter, the graphical representations were done.  $P < 0.05$  was considered as the level of significance for 95% confidence interval.

## RESULTS

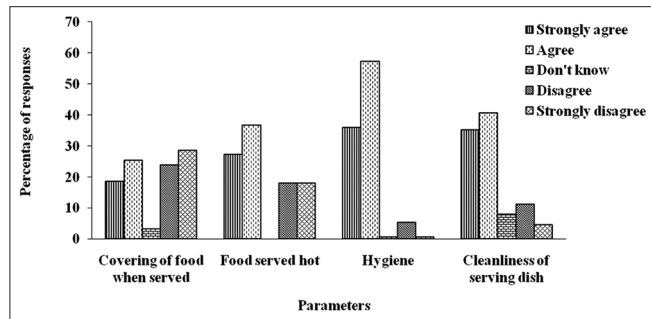
In the present study, data were collected from 150 patients as total study population from three departments, i.e. Department of Obstetrics and Gynaecology, Department of Surgery, and Department of General Medicine. Responses were taken from 50 patients each from every department.

In the Department of Obstetrics and Gynaecology, all patients were female. In the Department of Surgery, of 50, 14 patients were male and rest of the patients, i.e., 36 were female. On the other hand, 50 patients as study population from the Department of General Medicine included 28 male and rest of the patients, i.e., 22 were females. Overall in the study population, 42 (28%) were male and 108 (72%) were female. The present study showed the majority of the participants, i.e., 33 (22%) belonged to the age group of 32–39 years, followed by 30 (20%) of 25–31 years, 25 (16.67%) of 18–24 years, and 24 (16%) of 54–60 years [Table 1].

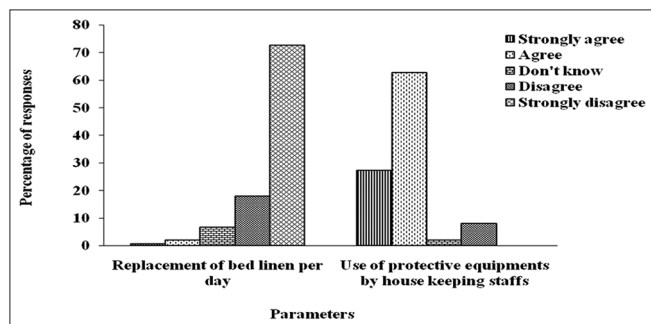
Figure 1 reveals the perception on food hygiene of the patients, who were admitted in the three different departments in the hospital. 79 (52.67%) (43 [28.67%] - strongly disagree and 36 [24%] - disagree) patients among the study population responded that the food was not covered when the food was served. 96 (64%) (41 [27.33%] - strongly agree and 55

**Table 1:** Age distribution of the study population (n=150)

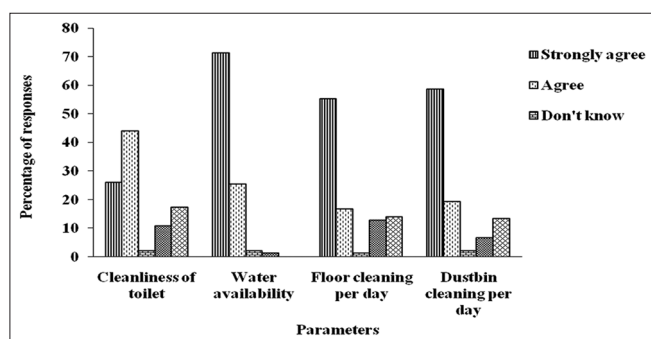
Age group (years)	Department of obstetrics and gynecology	Department of surgery	Department of general medicine	Total (%)
18–24	17	4	4	25 (16.67)
25–31	13	10	7	30 (20.00)
32–39	10	14	9	33 (22.00)
40–46	4	10	7	21 (14.00)
47–53	2	7	8	17 (11.33)
54–60	4	5	15	24 (16.00)



**Figure 1:** Distribution of patients' perception toward dietary services (n = 150)



**Figure 2:** Distribution of patients' perception toward laundry services (n = 150)



**Figure 3:** Distribution of patients' perception toward sanitation (n = 150)

[36.67%] - agree) patients agreed to the fact that food was hot at the time of serving, and 140 (93.33%) (54 [36%] - strongly agree and 86 [57.33%] - agree) responded that the food was hygienic. 114 (76%) (53 [35.33%] - strongly agree and 61 [40.67%] - agree) patients agreed that the serving dishes were clean.

In the present study, 136 (90.67%) (109 [72.67%] - strongly disagree and 27 [18%] - disagree) patients responded that bed linen was not changed every day. However, according to 135 (90%) (41 [27.33%] - strongly agree and 94 [62.67%] - agree) patients' opinion, all housekeeping staffs used their protective equipment while they were collecting the garbage in this hospital [Figure 2].

Figure 3 reveals that 105 (70%) (39 [26%] - strongly agree and 66 [44%] - agree) patients of the study population agreed that the toilets were clean and adequate amount of water supply was supported by the most of the study population, i.e., 145 (96.67%) (107 [71.33%] - strongly agree and 38 [25.33%] - agree). The patients also opined that dustbins were present in the toilet and 117 (78%) (88 [58.67%] - strongly agree and 29 [19.33%] - agree) patients agreed that the dustbins were cleaned regularly. 108 (72%) (83 [55.33%] - strongly agree and 25 [16.67%] - agree) patients admired that the floors were cleaned every day.

**DISCUSSION**

Patients admitted in the hospital are prone to infections as compared to the healthy ones. The present study was carried out for 2 months. The objective of the present study was to evaluate the perception of patient attending the inpatient Departments of Obstetrics and Gynaecology, Surgery, and General Medicine of a hospital in Kolkata on maintenance of standard on hygiene. In the period of the present study, data were collected from 150 patients as study population from three departments. In all the three departments, of 150 patients, 42 patients included male and rest of the patients, i.e., 108 were female. Therefore, in the present study population, the male-female percentage ratio was 28:72. In the present study, 50 patients from the Department of Obstetrics and Gynaecology were female, which led to the increased female ratio. Majority of the participants in the present study population belonged to the age group of 32–39 years (22%). Maintenance of food hygiene is essential, especially when it is served to patients. The practice of food safety in hospitals deals with the way that the food is prepared, delivered, and stored. Thus, it is the responsibility of the hospital authorities to look after the hygienic condition of the food. Satisfaction of the patients depends on a larger extent on the

facilities provided to them, especially the food provided to the inpatients.<sup>[9]</sup> 79 (52.67%) patients in the present study opined that the food was not covered at the time of serving. It had been revealed that 96 (64%) of the patients agreed that the food was served hot. Cleanliness of the patient bed is of most important to rule out hospital-borne infection.<sup>[10]</sup> Clean linens are also a factor to grow psychological confidence and increase the faith on the hospital service among the patients. The present study revealed that 136 (90.67%) patients among the respondents reported that bed linens were not changed regularly. Wards and toilets need to be cleaned regularly to reduce the level of nosocomial infection of patients.<sup>[11]</sup> In the present study, 105 (70%) patients of the total study population opined that the toilets were clean. 108 (72%) patients agreed that the floors were cleaned every day.

This study was in accordance with a patient satisfaction study among 100 patients, selected from the outpatient departments of Mahatma Gandhi Hospital, Surendranagar, Gujarat. That study revealed that, among the total study population, the male-female ratio was 42:58 and the mostly adult patients, i.e., above 20 years were responded in the study.<sup>[12]</sup> A patient satisfaction study conducted in a hospital of Rawalpindi among 80 patients revealed that 30 (38%) patients opined that food was served hot.<sup>[13]</sup> Regarding the linen and laundry service, a study at a tertiary care teaching hospital in New Delhi, India, revealed that 87.96% of patients were satisfied with the linen and laundry services.<sup>[14]</sup> Another study based on the perceptions, collected from the inpatient services of a specialized hospital, Southwest Ethiopia, showed that 68 (56.2%) patients among the total of 189 were satisfied with the cleanliness of the bed. However, in contrary to the present study, 154 (81.5%) patients expressed that the toilets were not clean. However, 145 (76.7%) patients were satisfied with the cleanliness of the wards.<sup>[15]</sup> Another study was conducted by Sodani *et al.*, in the outpatient departments of district hospital, civil hospital, community health center, and primary health center of Madhya Pradesh, India, and the overall satisfaction of the patients was assessed. It also showed that 275 (49%) patients of the total study population were dissatisfied with the cleanliness of the toilet, but 396 (71%) patients agreed that the hospitals were adequately cleaned.<sup>[16]</sup>

### Strengths and Limitations

Strengths and limitations are an integral part of any research work. The main strength of this article is the evaluation of the patients' perspective on the maintenance of hygiene in a hospital. The clean bedding, hygienic food, and clean toilets develop psychological dependence of the patients as well as their relatives on the services provided by the hospital. Patients' perspective must be considered by the health-care organizations, to satisfy their needs and expectations, and thus improves health-care service process. Hospital-acquired infections can be prevented by maintaining good hygiene

practice. Limitations of the study are the small number of study population and difficulty to cover all aspects within the short time span.

### CONCLUSION

Patients admitted to hospitals are at risk of various hospital-borne infections. Therefore, maintenance of hygienic condition in hospital is thus of utmost importance for the safety of the patients and hospital workers. Patients are more vulnerable to different types of microbiological and nutritional risks as compared to healthy individuals. The present study was conducted to obtain the patients' perception regarding maintenance of hygiene in the tertiary care hospital. This study should be encouraged in future to aware the society about the importance of maintenance of hygiene and to reduce infection and its adverse consequences. The rationality of the present study was to aware the society about the importance of maintenance of hygiene, to reduce patient suffering, and to decrease the chances of hospital borne infection.

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