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ORIGINAL ARTICLE

Pre-Operative Patient Preparation: Adherence to Hospital Guidelines at Shalamar Hospital Lahore

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ABSTRACT

Objectives: To determine the pre-operative patient's preparation adherence to hospital guide lines at Shalamar Hospital, Lahore.

Materials and Methods: This retrospective study was conducted in preoperative patient's preparation of general surgery, urology and orthopedic from the record room of Shalamar Hospital, Lahore. The study duration was 6 months (August 2023 to January 2024). Then collected data had been checked, entered and exported to SPSS25.0 version for data analysis.

Results: A total of 133 patients (82 males and 51 females) were recruited for this study; with Mean + SD of age (40.93% +14.232). The questionnaire performa filled by researcher himself. In total of 133 patients, 116(87.21%) patients were completely achieved pre-operative preparation adherence to hospital guidelines. 72(93.56%) of general surgery patients follow pre-op guidelines, 22(88%) of urology patients follow up pre-op guidelines and 22(70.96%) of orthopedics patients follow up pre-op guidelines.

Conclusion: Patients of general surgery had highest score regarding to preoperative preparation followed by urology and orthopedics surgery had least score regarding to preoperative preparation adherence to guidelines.

Keywords: Pre-operative preparation, pre-operative check list.

INTRODUCTION

An operation theater is an area in a hospital where the surgical procedures are carried out in an aseptic environment. The operation theater area is ideally located on the first floor of the main hospital building. Generally, an operation theater complex consists of six operation suits. Where there is easy access to cssd, emergency, and surgical wards. General operation theater unit size is 18" x 18" or 40 sq meters. Based on the bacterial considerations and to provide maximum asepsis, the entire OT complex can be divided into 4 zones. protective zone, clean zone, aseptic zone, and disposal zone.

The protective zone is a section of the OT complex that contains the reception, patient waiting area for relatives, changing room for consultants and staff, identification and case sheet check, induction room, OT manager room, seminar consultant and staff room, TSSU

area, pharmacy and general item store room, record room, service area, and electric control room. Then there's the clean zone, which includes the pre-operative area, recovery room, plaster room, blood storage, frozen section, work room for doctors and nurses, nurse duty room, anesthesia room, equipment room, and firefighting equipment. Then the other zone is sterile or aseptic zone where the main operating suits, scrub station, anesthesia station, and sterilized instruments are occurred. The final zone is the disposal zone, which includes a dirty washroom, a disposal corridor that connects to the clean zone, and a janitor closet. Scrub station should 96 cm height with water taps with sensors 10 cm high. Both hot water and cold water, soap liquid and scrubber.[1-2]

The pre-operative area is an area in the operation theater complex where the patients are prepared and evaluated for the surgical procedures. The pre-operative area is located in the clean zone in the operation theater complex. Pre-operative evaluation is a multidisciplinary process used to gather significant medical information about patients before elective surgical procedures. The primary purpose of the preoperative assessment of a patient is to ensure that the patient is completely prepared for certain surgical procedures and to remove negative outcomes with proper evaluation and preoperative care.[3-4]

Therefore, in order to attain the desired surgical outcomes, prior to any surgery, a patient's medical history and a general checkup are required. The surgeon-patient contact allows for a thorough examination of the problem, assessment of the patient's health status, identification of risk factors, patient education, and discussion of the operation plan. The patient's main vital signs are blood pressure, pulse, respiration, and saturation (rate and regularity). They are all part of a routine physical examination and medical history.[5]

Patients undergo a series of routine diagnostic tests prior to elective surgical procedures. The goal of preoperative testing is to analyze the patient's pre-existing medical difficulties while also uncovering previously unknown medical issues. A well-planned pre-operative preparation is essential for certain types of operations. The general examination (to identify any underlying undiagnosed pathology present) and the airway examination are both performed during the pre-operative assessment (to predict the difficulty of airway management, e.g., intubation). The area pertinent to the operation can also be checked if necessary.[6-7]

Examine the patient thoroughly for any noticeable cardiovascular, pulmonary, or abdominal indications (especially undiscovered murmurs or evidence of heart failure). Classification, which will include an airway assessment (usually using the Mallampati score). If there is any complication shown in the pre-op assessment, then it should be clearly mentioned in the patient documents to reduce the risk of patient health.[8]

The pre-operative assessment relies heavily on documentation. Patient's complete history, pre-op nursing check list, particularly patient's preparation status; Identity fixation band with proper mention; proper shaving at surgical area; surgical site marking; removal of all jewelry, watches, and nail polish; patient fastened 8 hours before operation; vital signs measured and counted down; clearly noted if patient is infected with infectious disease. Make certain that the consent form is completely filled.[9-10]

It is a baseline study in which the researcher will investigate that the checklist is completely filled or not, if the checklists are not filled completely then this study would help the organization to take the step How to improve it in future.

Objective

To determine pre-operative patient preparation and adherence to hospital guidelines

MATERIAL AND METHOD

Study Design

This study was conducted as a retrospective observational study, designed to assess the documentation and completeness of preoperative assessments of patients scheduled for elective surgeries in the departments of General Surgery, Urology, and Orthopaedics.

Study Setting

The study was carried out in the record room of Shalamar Hospital, Lahore, a tertiary care hospital with an active surgical unit. All data were collected from patient records stored in this facility.

Study Duration

The study was conducted over a period of six months, from August 2023 to January 2024.

Sample Size

This was a time-bound study, and the sample size was based on the number of eligible patient records available during the six-month study period. No formal sample size calculation was performed due to the retrospective nature of the study.

Sampling Technique

A convenient sampling technique was employed. All patient records that fulfilled the inclusion criteria and

were available during the defined study period were reviewed and included.

Study Population

The study population consisted of patients from the departments of General Surgery, Urology, and Orthopaedics who underwent preoperative assessment prior to elective surgical procedures.

Inclusion Criteria

Patient records were included in the study if:

- The patients were assessed in the preoperative area of the operation theatre complex,
- They were scheduled for elective surgical procedures in General Surgery, Urology, or Orthopaedics,
- Their records contained a completed preoperative assessment performa.

Exclusion Criteria

Patient records were excluded from the study if:

- The patients underwent emergency surgical procedures,
- The preoperative assessment performa was missing or incomplete.

Study Instrument

A structured performa was used as the primary data collection tool. The performa was designed to extract relevant information regarding preoperative assessments, including:

- Demographic data (age, gender),
- Type of surgery,
- Documentation of vital signs,
- Pre-anesthesia evaluation,
- Confirmation of preoperative fasting,
- Documentation of consent,
- Verification of investigations and overall fitness for surgery.

The performa served to assess whether the standard components of preoperative assessment were duly documented.

Data Collection Procedure

Data were collected manually by the principal investigator from the physical records available in the hospital's record room. The following procedure was followed:

- Patient files were reviewed individually to identify those that met the inclusion criteria.
- Only those records with a completely filled preoperative assessment performa were included in the analysis.
- No laboratory or radiological investigations were reviewed.
- The study did not involve any direct patient interaction, and there were no associated risks to patient safety or confidentiality.
- Data were collected without requiring any additional clinical procedures or investigations.

Ethical Considerations

As the study was retrospective and based solely on pre-existing patient records, no informed consent was required. Patient confidentiality was maintained at all stages. Ethical clearance was obtained from the relevant institutional review board prior to the initiation of data collection.

Statistical Analysis

The collected data were entered and analyzed using IBM SPSS version 25. The following statistical methods were used:

- Quantitative variables such as age were presented as mean ± standard deviation (SD).
- Qualitative variables such as gender and type of surgery were expressed as frequencies and percentages.
- Appropriate parametric tests such as the Independent Samples t-test and One-Way ANOVA were used to assess differences between groups, depending on the nature of the variables and fulfillment of assumptions such as normality.
- A p-value of ≤ 0.05 was considered statistically significant.

Study Variables

- Dependent Variable: Completeness of preoperative assessment
- Independent Variables: Age, gender, surgical department (General Surgery, Urology, Orthopaedics), type of surgery (elective), and presence/absence of key components of the preoperative performa (vital signs, consent, pre-anesthesia check, fasting status, investigation verification).

RESULTS

In this study "Pre-op patients preparation adherence to guidelines of hospital". A total of 133 patients pre-op record were study of general surgery urology and orthopedic. In which 116(87.21%) patients were complete pre-op preparation according to guidelines of hospital. General surgery patients mostly follow up pre-op

guidelines and their pre-op preparation were almost complete as compare to patients of urology and orthopedics procedures**.**

This table representation shows that, out of a total of 133 surgeries, 77 were general surgery. 25 were urology and 31 were orthopedics. The total count of general surgery with npo was 92.20% and without npo was 7.8%.Urology with npo was 84.0% and without npo was 16%. Orthopedics with npo was 45.5% and without was 54.8%.

This table and graphical representation show that, out of a total of 133 surgeries. General surgeries were performed on 77, urology on 25, and orthopedics on 31. In general surgery, 94.8% of sites were marked, while 5.2% were not. Urology 96.05 was site marked, where 4% were not, and 94.7% of the site marking of orthopedics occurred, and 5.3% did not.

Table 4.1: Frequency Mean and Standard Deviation of Age.

Gender	N	Mean+ SD	Age (Mean+SD)
Male	82	40.27+18.739	40.93+17.232
Female	51	42.00+14.600	

Figure 4.1: Total frequency of patients.

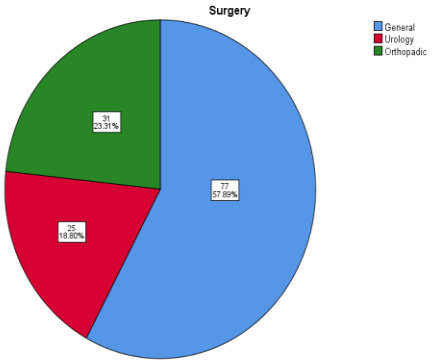

Table 4.2: Frequency and Percentage of Patients that follow pre-operative preparation adherence to hospital guidelines.

Surgery	Percentage	Frequency
General surgery patient's follow up pre-op preparation adherence to hospital guide lines.	93.56%	72
Urological patient's follow up pre-op preparation adherence to hospital guide lines.	88%	22
Orthopedic patient's follow up pre-op preparation adherence to hospital guide lines.	70.96%	22
Total	87.21%	116

Table 4.3: Compare between Surgery and patient Nil per Oral (NPO).

			Was patient nil per oral		Total
			No	Yes	
Surgery	General	Count	6	71	77
		% within Surgery	7.8%	92.2%	100.0%
	Urology	Count	4	21	25
		% within Surgery	16.0%	84.0%	100.0%
	Orthopedics	Count	17	14	31
		% within Surgery	54.8%	45.2%	100.0%
Total		Count	27	106	133
		% within Surgery	20.3%	79.7%	100.0%

Likelihood ratio .30.587

There is an association between Surgery and patient Nil per Oral (p-value 0.003).

Table 4.4: Compare between Surgery and Surgical Site marking.

			Have site marking been done		Total
			No	Yes	
Surgery	General	Count	4	73	77
		% within Surgery	5.2%	94.8%	100.0%
	Urology	Count	1	24	25
		% within Surgery	4.0%	96.0%	100.0%
	Orthopedics	Count	2	29	31
		% within Surgery	6.5%	93.5%	100.0%
Total		Count	7	126	133
		% within Surgery	5.3%	94.7%	100.0%

Likelihood Ratio.170

There is association between surgery and sight marking been done (p-value 0.045).

DISCUSSION

Prior to consideration of surgical intervention, it is necessary to prepare the patient as fully as possible so as to optimize him/her according to comorbidities. The preoperative evaluation is primarily reliant on documentation. Patient's complete history, pre-op nursing check list, especially patient's preparation status; Identity fixation band fixed with proper mention; proper shaving at surgical area; surgical site marking; removal of all jewelry, watches, and nail polish; patient fastened 8 hours before surgery; vital signs measured and counted down; clearly noted if patient is infected with infectious disease Make sure the consent form is filled out completely.

According to our findings, pre-operative patient's preparation adherence to hospital guide lines, NPO and surgical site marking violations are significant in orthopaedic patients and then urology patients, where as general surgery patients' pre-operative preparation adherence to hospital guidelines was almost complete.

The researcher Billings et al. conducted a study on Demographic Predictors of NPO Violations in Elective surgery. The researcher concluded that 25% patients had violated NPO. Our study shows that 20.3% patients had violated NPO. My study is contra indict to previous study as results of my study are better than previous.[11] A study on Preoperative fasting times in elective surgical patients at a referral Hospital in Botswana. The researcher found that 98.1% patients were NPO. In our study 79.7% patients were NPO**.** My study is contra indict to previous study as results of previous study are better than our study.[12]

A study was conducted in Australian Incident Monitoring System in Australia. They studied about inadequate pre-operative evaluation and preparation. 6721 cases were reported. There were 478 reports relating to inadequate 'pre-operative assessment and 248 reports referring to ' inadequate, pre-operative patient preparation in the AIMS database of 6271 reports (11% of AIMS reports). There were 197 cases (3.1%) in these reports that were definitely related to issues with pre-operative assessment or preparation and the results are similar with. [13] They studied about Guidelines for pre-operative assessment impact on clinical practice and costs. The application of pre-operative guidelines would reduce the average number of lab tests which are not relevant to the surgical procedures 1.4% per patient respectively. The proper pre-operative evaluation and the application of the guidelines would reduce costs 41–52% according to different cost evaluation approaches for hospital stay without compromised the patients safety. [14-15]

The study about failures in communication through documents and documentation across the perioperative pathway. Data were generated through 350 hours of observation. Patients' safety was compromised and also delay of the surgical procedures as a result of poor and incomplete pre-operative documents and documentation that transfer patients' information at critical moment as the result alteration at Sign in and sign out of wrong patient and then wrong procedures were done and also irrelevant medication was also administrated and similar with our study findings. [16-17]

Importance given to the information provided, participants considered it very important, 34.4% important and 6.5% reasonably important. No patient reported that the information provided was not important level of satisfaction, 74.2% were very satisfied, 19.4% were satisfied with the consultation, and only 6.5% were reasonably satisfied. One hundred percent of the patients reported wanting a nursing consultation again if they needed another surgical intervention. [18]

CONLUSION

We conclude that violations of NPO and Surgical Site Marking are common in orthopedic and then urological patients, where as general surgery patients had almost complete preoperative preparation adherence to guidelines.

Suggestions

Suggestions of our study were following as:

- Pre-operative checklist and preparation should be performed on each and every patient planned for routine surgery.
- In order to reduce the surgery cancellation and reduce the complications in high-risk patients, preoperative checklist should be completely fills up in time.
- Seminar and workshops should be held to achieve this milestone in effective way.

DECLARATION

Ethical Approval

The study was approved by the Institutional Review Board of Shalamar Hospital, Lahore. As this was a retrospective study using previously recorded data, no direct patient contact or intervention was involved.

Conflict of Interest

The authors declare no conflict of interest.

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