

The Clinical Profile of Operated Patients in a Tertiary Care Hospital: A Cross-sectional Study

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ABSTRACT

Background: As surgical cases have been growing rapidly globally, understanding the demographic and clinical profile of surgical cases is essential for better health service delivery and resource allocation. This study aimed to assess the demographic characteristics, types of surgeries and anesthesia technique used at Nepal APF Hospital.

Methods: A descriptive cross-sectional study was conducted using retrospective data from January 1, 2023 to December 31, 2023. Data related to age, gender, type of surgery and anesthesia technique were collected from 1612 surgical cases. Descriptive statistics were used to analyze the data.

Results: The mean age of the patients was 37.76 years (SD = 15.24), with males 63.3% of total surgeries. The 30-39 age group had the highest number of surgeries. General surgery (50%) was the most common surgery followed by orthopedic surgery (27.7%). Local anesthesia (38.8%) was the most frequently used anesthesia technique followed by spinal anesthesia (28.1%).

Conclusion: The study highlights the majority of males and younger adults in surgical cases with general surgery and local anesthesia being the most common surgical type and anesthesia technique, respectively. These findings can guide hospital administration in resource allocation and surgical planning.

Keywords: Anesthesia Technique; Demographics; Surgical Profile.

INTRODUCTION

The impact of surgical intervention on public health system is growing as the incidence of traumatic injury, general surgery, neurological disorder, obstetric-gynecologic emergencies, ophthalmic and cancer diseases are continue to grow. Estimates suggest that 234.2 million surgeries are done globally each year.¹⁻³ As the impact of surgical interventions on public health systems is growing, surgical care faces many challenges like limited resources, insufficient skilled personnel and inequitable access of quality services.⁴⁻⁶ Surgical interventions contribute to 13% of the world's total disability-adjusted life years, with common procedures including cesarean sections, appendectomies, cataract surgeries, hernia repairs and trauma related surgeries.⁷⁻¹⁰ In Nepal, a total of 614634 surgeries done at all levels of hospitals during the fiscal year 2078/79, with 53% were classified as major procedures.¹¹ Despite the growing volume, data on demographic and clinical profile of surgical cases is limited.

So understanding these factors is helpful to improve surgical care services in Nepal. This study aimed to assess the clinical profile of surgical cases across different department in a hospital setting, focusing on patient demographics, types of surgeries and anesthesia techniques.

METHODS

The study was conducted at Nepal Armed Police Force Hospital, a tertiary care center in Balambu, Kathmandu. All the operated cases from 1st January 2023 to 31st December 2023 in Nepal APF hospital were included as the study population. Study was carried out after getting ethical approval from institutional review committee of Nepal APF hospital (IRC/ NAPF – 029/2024). The data were taken from the medical record department and Operation Theatre register. Patient's demographics, type of surgery, and anesthesia technique were recorded. All

the obtained data were checked, organized and entered in Microsoft excel and analysis was done using statistical package of social sciences (SPSS) and expressed in percentage, frequency table and pie-chart.

RESULTS

A total of 1612 surgical cases were recorded. The mean age of patients was 37.76 years (SD=15.24). The 30-39 age group had the highest number of surgeries (584 cases), followed by 20-29 age group as shown in the Table 1.

Table 1: Age distribution of surgical cases

Age Group	Number
0-9	42
10-19	97
20-29	300
30-39	584
40-49	258
50-59	147
60-69	127
70-79	49
>80	8
Total	1612

Out of 1612 surgical cases, males comprised 63.3% (1021) of the total surgeries, while female comprised for 36.7% (591) as shown in the Figure 1.

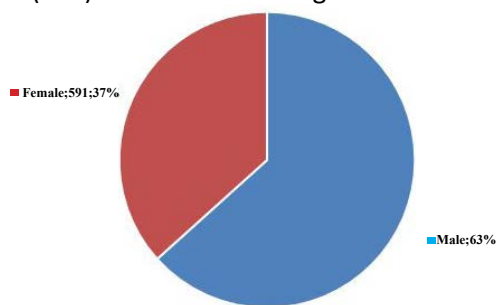


Figure 1: Gender Distribution

Type of Surgeries Performed

General Surgeries was the most common procedure, 50% (806) for all surgeries. This was followed by orthopedic surgery 27.7% (446), OBSGYN, and ENT Surgery.

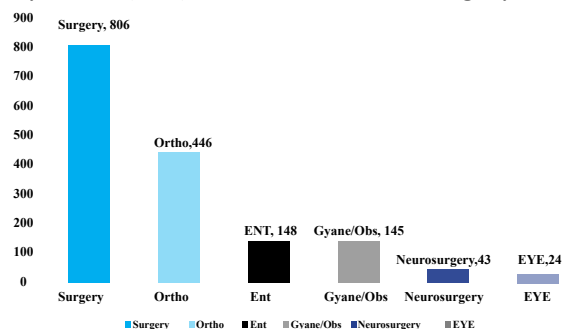


Figure 2: Number of Surgeries across Different Departments

Out of a total of 1,612 surgeries performed in the year 2023 at Nepal APF Hospital, 61% (987) were major surgeries, typically involving more complex or invasive procedures and 39% (625) were minor surgeries, including outpatient or short-procedure room operations such as cyst excisions, wound debridement, and eye procedures as shown in figure 3.

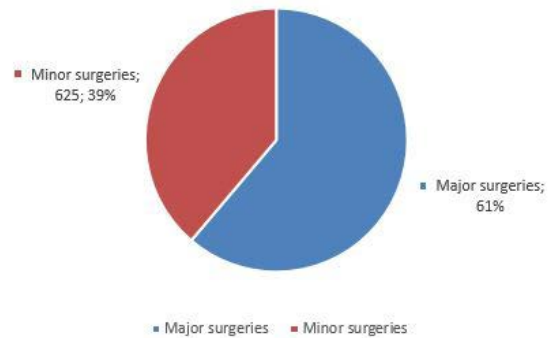


Figure 3. Major and Minor Surgery

Anesthesia technique used:

Local anesthesia was the most frequently used technique, 38.8% (625) of cases. This was followed by spinal anesthesia 28.1% (453) and general anesthesia 18.5% (298).

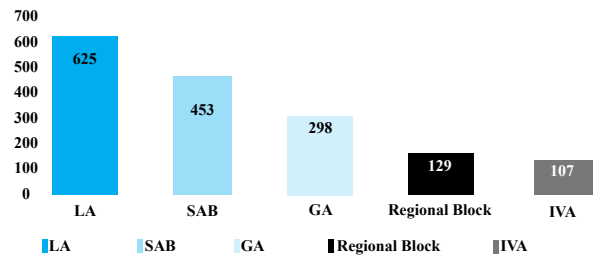


Figure 4. Anesthesia Technique Used

DISCUSSION

Every day in the developing world, several hospitals, private volunteer organizations, governmental and nonprofit organizations, and individual surgical teams perform surgical interventions.¹² Nepal APF Hospital has been offering exceptional services to its beneficiaries, which include Nepal APF personnel, APF personnel's families, and civilians. This study conducted in Nepal APF Hospital provides valuable insights into a demographic and clinical profile of 1612 surgical cases in a tertiary care hospital. The majority of Males (63.3%) in surgical cases consistent with findings from similar studies, where male often have higher healthcare-seeking behavior for surgical interventions.^{13,14} The mean age of patients was 37.76 years, indicating that younger adults constitute a significant proportion of surgical patients. The 30-39 age group had the highest

number of surgeries may reflect the active workforce age group that experience higher exposure to trauma, work-related injuries, and health conditions requiring surgery which is similar to the other studies done in Nepal.^{15,16} This study showed that general surgery was the most common type of surgery followed by orthopedic surgery, reflecting surgeries such as hernia repair, laparotomies, appendectomies and musculoskeletal injuries remain a major component of surgical workload, this finding is consistent with other studies, which showed that the most common surgery performed was the general surgery.^{17,18} Local anesthesia was the most commonly used technique, likely due to its use in minor procedures and safety. The local anesthesia was followed by Spinal anesthesia, as it play major role in lower abdomen and orthopedic surgeries. The low use of general anesthesia may reflect limited operating theater capacity and avoidance of its higher risks in patients with limited preoperative optimization.^{19,20} The study findings emphasize the need for improved surgical resource allocation particularly in the fields of general and orthopedic surgery. Additionally, as the demand for surgical interventions rises, there is a need for capacity-building initiatives to ensure adequate human resource and surgical equipment, particularly in resource-limited settings like Nepal.

CONCLUSIONS

This study provides a comprehensive demographic and clinical profile of surgical cases in a tertiary care hospital in Nepal. The findings highlight the predominance of general and orthopedic surgeries and preference for local and spinal anesthesia. The result can be helpful for hospital administration in resource allocation and planning to enhance surgical care services. Multicenter studies are recommended to generalize findings across different health care settings.

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