Section: General Surgery

Original Research Article

SURGICAL AUDIT OF OPERATED PATIENTS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: The Surgical audit is a peer-reviewed assessment of the operation which significantly improves the care of the patient, to ensure the adherence of the standards to enhance the clinical result by controlling the quality. **Materials and Methods:** A retrospective study conducted for the analysis of the surgical audit among the operated patients at Shantabaa Medical College for two-year duration. The study focused on operative procedure from the General Surgery departments. **Result:** From 2021 to 2022, SMCGH saw a 9% increase in total surgeries, with elective procedures rising and spinal anaesthesia becoming more common. Male patients predominated, especially in the 14–34 age group. Surgeries like hernioplasty, excision, and appendectomy remained frequent. Overall, the hospital experienced a trend towards more complex procedures, including excisions, and an uptick in emergency surgeries. **Conclusion:** The study have concluded there is an increase in the overall number of surgeries, with a notable shift towards elective procedures and spinal anaesthesia. While the age and gender distribution remained consistent, the workload of certain surgeons increased significantly.

INTRODUCTION

The audit is meant by the quality control of the medical and the clinical practices, where the regulation of the activities can be controlled for the improvement of the patient care.[1] The surgical audit is the significant approach for maintaining the standard of the surgical site in hospitals. This is the critical evaluation and the systematic approach for the care of surgery, under peer-reviewed against some standards to use to improve the surgical practices, for the outcome of the improvement of the care quality in the hospitals. The standard encourage the administrators for providing the sufficient resourced for the performance of the activities. The term audit is the origination from a Latin word audire, which means for the hearing.[2] The process of the clinical audit is the improvement of the quality for better patient outcome by a systematic review care. The adaptation of these audit system is applied in various field of surgery, for the analysis of the data and the identification for the improvement of the clinical unit, for proper regulation and the management in future.[3] The Flint of the title Philosophy and principles of auditing, which reveals that it is a process without any achievement of reward apart from the building of the things as serviceable at times of ease. Prof David Johnson have describes the term for as a process for the quality control in the medical practice for the regulation of the activities for the improvement of the care of patient.[4] In case of the medicine, this represents the medical practice for controlling the quality. This also ensures to prevent and restrict the use of malpractices to promote the ultimate care of the patient for better outcome. Accounting is related to the term audit and provides the numerical review for restricting the fraud in clinical care for the specific data collection to assess the clinical performances for the modification of the clinical practices.[4] Clinical audit is the improvement intervention by the practitioners and used in case of the primary care.[5] Also the audits related to the quality evaluation and the quality assurance have made significant improvement in medical field, is not strong comparing to the review for the utilisation. The studies regarding the medical care evaluation have impacted the practitioner.[6] Also the objective of the auditing and the function of the auditors are not constant, are continuously nonpunitive evolving each day.[7] In the surgical audit, there is difficulty for setting the standards to measure the outcome variations, this process is nonpunitive, which is an educative procedure for the improvement of the patient care outcome. The criteria should have compared for guiding the accumulation of the resources, the surgical practice, and the decision conduction. Also the efficient surgeon never hide the faults for serving the best treatment care to the patients for improving practice. But the surgical audit should not be conducted regular basis, thus the clinical data is not available for review and analysis

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for the morbidity, mortality for the overall efficient clinical care.[8] Continuous systematic audit is highly benefitted for the promotion of good clinical practice for the efficient methods, for the proper correlation among the usage of resources to enhance the efficacy to improve the training, education and the overall health pattern.[9] The Clinical audit is seen among various countries for the identification and the improvement of the deficiencies clinically.[10] Perpetual systemic audits is consists of the multitudinous prerogative which comprises of the efficient good professional practices, to utilise the resources to increase the efficacy, to improve the training and the methodologies and the total health care system.[11] The audit analysed the performance of the surgeons for the analysis of the procedure. This can add new innovative thinking to the health care team and the addition of modalities should be given importance. The audit organisation helps in the evaluation of the benefits and the limitation of the procedures. Healthcare workers also should be interested in the auditing and the corresponding research methodologies.[12]

MATERIALS AND METHODS

Research design: A retrospective study conducted for the analysis of the surgical audit among the operated patients. The study was conducted during the period of two year in Shantabaa Medical College And General Hospital, Amreli, Gujarat. The study was conducted with proper ethical approval and the ethical consideration from the hospital. The operative notes were chose based on the said inclusion and exclusion criteria for the study.

Inclusion Criteria

- Operative notes which were taken from the General Surgery department
- The notes should contain the proper information for the identification of the surgeon, procedure, and postoperative care.

Exclusion Criteria

- Any incomplete notes for the operation were not considered for the study.
- Missed operation notes were excluded.

Procedure: The study process is the assessment of the notes of the operative procedures, which include details like age, gender, diagnosis, operative procedure and whether the procedure was performed in an emergency or elective were recorded.

Statistical analysis: The collected data were recorded and descriptive statistics were used for the summarization.

RESULTS

The [Table 1] shows the increase in the process of the surgery from the 1,130 in the year of 2021 to the 1,228 in 2022. According to the age, the high surgery takes place in the age of 14 to 24 years of age and in 25 to 34 years of age. The males are more predominant in both of the year comparison to the females, where the surgeries also increases from the 420 to 469. Also the elective process is the majority for the operations, which enhances from the1,047 in 2021 to 1,118 in 2022 and the emergency surgeries also increases from the 83 to 110.

Table 1: The analysis of the process of the operation, in terms of the age, gender and the Elective vs. Emergency Distribution in the Shantabaa Medical College and General Hospital, Amreli.

Age group wise OT data		
Year	**2021**	**2022**
0 to 13 age	108	115
14 to 24 age	214	219
25 to 34 age	207	216
35 to 44 age	177	204
45 to 54 age	150	174
55 to 64 age	147	174
65 to above	127	126
Total	1130	1228
Gender wise OT data		
Year	2021	2022
Female	420	469
Male	710	759
Total	1130	1228
Elective and emargency OT		
Year	2021	2022
Elective OT	1047	1118
Emargency OT	83	110
Total	1130	1228

In [Table 2], the distribution of anaesthesia techniques used in surgeries at SMCGH is provided. Spinal anaesthesia was the most frequently used method, with a significant increase from 630 cases in 2021 to 708 cases in 2022. General anaesthesia (GA) also showed an increase from 355 in 2021 to 401 in 2022, while Block anaesthesia saw a decline from 145 in 2021 to 119 in 2022. This suggests a shift toward spinal and GA anaesthesia in the surgeries conducted at the hospital over this period, possibly reflecting changes in surgical practices or patient needs.

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Table 2: The distribution of the Anaesthesia Techniques

Total (spinal +GA+ block)		
OT name	**2021**	**2022**
Spinal	630	708
Ga	355	401
Block	145	119
Total	1130	1228

[Table 3] outlines the major surgical procedures performed at SMCGH in 2021. The most common procedure was hernioplasty, with 186 cases, followed by excisions (260 cases) and open appendectomy (150 cases). Other notable procedures included circumcision (94), debridement (150), and laparoscopic appendectomy (44). A few procedures had relatively low frequencies, such as laprotomy (1 case) and herniotomy (2 cases), highlighting the specialized or less common nature of these surgeries. The distribution shows a mix of common general surgeries, with a focus on hernia and abdominal procedures.

Table 3: The surgical process performed at the SMCGH Amreli in 2021 due to the process wise distribution

SMCGH AMRELI		
MAJOR OT 2021		
SR NO	**OT Name**	**Total**
1	HERNIOPALSTY	186
2	I & D	106
3	EXCISION	260
4	LAPROTOMY	1
5	HERNIOTOMY	2
6	CIRCUMCISION	94
7	OPEN APPENDECTOMY	150
8	AMPUTATION	28
9	DEBRITMENT	150
10	LAP APPENDECTOMY	44
11	STSG	12
12	JOBULS PROCEDURE	1
17	HYDROCELE REPAIR	11
19	THYREDECTOMY	1
20	MRM	1
21	FISULECTOMY	4
22	HEMRREDELTOMY	32
23	MESHPLASTY	11
26	EXPLORATION	4
28	FOREING BODY TEMOVE	2
30	SECONDARY CLOSER	12
31	LUPPHECTOMY	1
34	LAP CHOLY	1
35	ORCHIDECTOMY	14
36	CYSTO LITHOTOMY	1
41	OPEN CHOLY	1
Total		1130

[Table 4] presents the distribution of surgical procedures performed at SMCGH in 2022. The most frequent surgeries were excisions (308 cases), followed by circumcisions (77 cases) and open appendectomy (155 cases). The data also reveals an increase in the number of I&D (incision and drainage) procedures from 106 in 2021 to 130 in 2022. Additionally, there were more debridement procedures in 2022 (154 cases) compared to 2021 (150 cases). Procedures like laparotomy (9 cases) and herniotomy (2 cases) continued to remain low. The overall surgical workload has shifted somewhat towards excision procedures, with more complex and specialized surgeries like fistulotomy and splenectomy also recorded.

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Table 4: The process wise distribution of the main process of the surgeries

SMCGH, AMRELI		
MAJOR OT 2022		
SR NO	**OT Name**	**Total**
1	HEMRREDELTOMY	28
2	CIRCUMCISION	77
3	EXCISION	308
4	LAP APPENDECTOMY	30
5	STSG	8
6	MRM	2
7	THYREDECTOMY	2
8	I & D	130
9	HERNIOPALSTY	205
10	DEBRITMENT	154
11	LAPROTOMY	9
12	OPEN APPENDECTOMY	155
13	LAP CHOLY	3
14	FISTULEOTOMY	21
15	AMPUTATION	35
16	ORCHIDECTOMY	15
17	JABOULEYS	2
18	EXCISION + BIOPSY	3
19	FACIOTOMY	3
20	SUTURING	11
21	STOMA CLOSER	1
22	MESHPLASTY	2
23	HERNIOTOMY	2
24	LETREAL ANAL SPHICTROTAMY	1
25	OPEN CHOLY	2
26	HYDROCELE REPAIR	11
27	EXPLORATION	4
28	SPLENECTOMY	3
29	CYSTO LITHOTOMY	1
	TOTAL	1228

DISCUSSION

Notable enhancements were seen in initial patient assessment and consent documentation, while anaesthesia records remained consistently high. The study concluded that systematic auditing combined with electronic record-keeping contributed to these improvements and highlighted the importance of ongoing record audits to maintain surgical quality. The study have triggered the importance of the accurate and specific interventions, the use of proper surgical process and the adherence to certain protocols clinically for the reduction of the mortality rate.[13] The study reveals that the audit is used for the evaluation of the preoperative consent form for the surgical patients to identify the critical gaps for the proper understanding. The study have revealed the requirement for the communication, the education of the patient and the practice for the documentation for ensuring the consent.[14] Another study have assessed the feasibility for the conduction of the clinical outcomes by using the minimal resources in the hospital. The study have revealed the involvement of the data collection and the coding, quality and accuracy can be improved. The learning curve for about 4 to 6 months is significant for the collection of optimum data. The involvement of the surgeon is crucial for the regulation of the documentation and the audit process is less costly and also potential. The study have concluded that the audits are successfully implemented to provide the model for some institutions for the evaluation of the surgical outcomes.[15] The study have been assessed with the compliance from some international guidelines and the study have consisted of the 100 operative notes which is followed by the re-audit of another 100 notes. 20 parameters have been considered for the assessment to evaluate the quality of the document. The study results have revealed the important improvements to indicate the proformas for specific and targeted awareness to improve the compliance. The study findings have revealed the significance of the systematic documentation audits which is combined with the initiatives obtained by the educational institution for the improvement of the quality of the surgery.[16] The study is a prospective, observational study which have assessed the compliance with the WHO, where the data collection was done from different 91 surgical cases in different operating rooms. The study resulted in the 3 components of the WHO checklist to improve. The education have been detected as the crucial factor for the enhancement of the adherence rate, but the implementation limitations needs the collaborative and strategic environment. Regular audits are in combination with specific training which can increase the patient safety and the checklist compliance in case of the surgery.[17] Educational sessions should be organized to equip all healthcare professionals with essential audit knowledge and to emphasize the value of data and research in advancing the quality of healthcare delivery.[18]

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Findings indicated that data gathered by healthcare professionals demonstrated high accuracy and quality, contributing to the hospital's ability to sustain reliable and current data over time.[19]

A strong necessity is recognized to incorporate clinical audits within the healthcare framework to assess patient demographics, disease profiles, admission trends, treatment procedures, hospital stay durations, and detailed morbidity and mortality data. Conducting systematic and periodic clinical audits should be made compulsory to ensure quality clinical practice and improved patient care. Continuous audits are essential in modern surgical practice to achieve progress over earlier methods. As observed in developed countries, implementing structured audit systems and services is crucial for enhancing our healthcare standards.

CONCLUSION

The study have concluded there is an increase in the overall number of surgeries, with a notable shift towards elective procedures and spinal anaesthesia. While the age and gender distribution remained consistent, the workload, increased significantly. The hospital's surgical focus appears to have shifted slightly towards excisions and abdominal surgeries in 2022. The Excisions, hernioplasties, open appendectomies, and debridements are commonly performed and laparotomy, thyroidectomy, and cystolithotomy are frequently performed. The senior surgeons have the highest contribution. There is the evident of the consistent trend for the operation, the efficacy in the utilisation of the anesthesia procedures which increases the surgical outcome.

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