

# Spectrum of Surgical Procedures Performed at a District Hospital in North India: A Retrospective Observational Study

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## ABSTRACT

**Background:** Surgical procedures help in reduction of global disease burden and this role is well recognized in medical literature. There is great role of surgical procedure in determining the quality and quantity of curative services provided by the hospital. This study aims at studying the surgical services provided at District Hospital Bilaspur (H.P.) and to assess about improvement in them in coming period with help of surgical specialties, Anesthesia service provider and administration.

**Methods:** This retrospective study was conducted between June 2019 to May 2020. We used operation theatre records to analyze different kind of surgical services delivered in the mentioned period.

**Results:** This government run hospital is providing services and various surgical fields out of which OBG services tops the chart. Maternity services are the foremost priorities of the hospital. These interventions are carried out in a one operation theatre providing one day week to each specialty. No super-specialty services are provided except urological interventions. A total of 873 major surgeries were conducted during one year out of which 225 (25.77%) were emergency surgeries and 648 were elective procedures

**Conclusion:** The volume of surgeries delivered in this secondary health care institution in a rural setting is mostly maternity oriented. Provision of only single operation theatre is a major drawback in delivering the emergency surgeries in respect of other specialties except OBG. To attend to the surgical needs of

population catered by hospital, operation theatre complex should be upgraded.

**Key words:** Gen Surgery, Orthopedic Surgery, OBG surgery, Surgical procedures.

## INTRODUCTION

The global burden of disease which is surgically correctable is 28-32%<sup>1-3</sup>. The role of surgeries is well established<sup>4-5</sup>, still approximately 5 billion human beings don't have timely access to surgical facilities<sup>1-3</sup>. There is difference in delivery of services in term of both quality and quantity among different regions of a state, different counties and different hospitals. This affects the population disproportionately specially in low income states<sup>6</sup>. The disparity among delivery of services is due to different reasons like inadequate human resources, infrastructure, poor communication system, inadequate instruments and limited financial resources. This study aims at providing comprehensive knowledge about volume of surgeries delivered at our hospital in deferent surgical specialties. The observations made can be used to make policy changes and formulation of plan of action to optimize service delivery with the help of administration.

## METHODS

This retrospective observational study was conducted in period between June 2019 to May 2020 in District Hospital

Bilaspur (H.P.). This hospital caters a population 3.82 lakh and is the only government run institution in the region where surgical services are provided under different departments. Surgeries were conducted in the field of General Surgery, OBG, Orthopedic, Ophthalmology, ENT and urology. There is only one operating table which is shared by all specialty on day to day basis. Data was collected from Operation theatre records to analyze the surgeries conducted by different department. This data is arranged in term of surgery provided and whether emergency or elective in different specialty. Approval from Institution for analyzing the data was taken.

### ANALYSIS AND RESULTS

A total of 873 surgeries were conducted in study time frame. There were 225 surgeries which were done in emergency accounting for 25.77 % of total surgeries. Maximum surgical procedures were performed by department of OBG

(342) followed by Eye (272), General Surgery (120), Orthopedics (96), ENT (23) and Urology (20).

Most of surgeries were done by OBG department (39 %). OBG surgical procedure included LSCS (235) followed by Laparoscopic sterilization (48), TAH (32), VH (21). Most of LSCS were done as emergency (200). (Table-1, Chart-1, chart-2))

Eye surgeries conducted during this time period were cataract extraction using small incision and phacoemulsification. (Table-1, Chart-1)

General Surgery department have conducted 120 surgeries out of which maximum were Laparoscopic Surgeries. Among Laparoscopic Surgeries Cholecystectomies were maximum (76). Other surgical procedures performed are laparoscopic and open appendectomy, open cholecystectomy, Hernioplasty (open as well Laparoscopic), Mastectomy and Orchidopexy. (Table-1, Chart-1)

Table:1 Specialty wise case distribution.

Specialty	Surgery	Elective	Emergency	Total
<b>OBG (342)</b>	LSCS	35	200	235
	TAH	31	1	32
	VH	21	0	21
	Ruptured Ectopic pregnancy	0	4	4
	PPH	0	1	1
	Diagnostic Laparoscopy	1	0	1
	Laparoscopic sterilization	48	0	48
<b>General Surgery (120)</b>	Laparoscopic Cholecystectomy	76	0	76
	Laparoscopic appendectomy	3	2	5
	Laparoscopic Hernioplasty	1	0	1
	Open Cholecystectomy	10	0	10
	Mesh Hernioplasty	10	0	10
	Open Appendectomy	2	13	15
	Modified Radical Mastectomy	1	0	1
	Orchidopexy	2	0	2
<b>Urology (20)</b>	Laparoscopic Uretero-lithotomy	1	0	1
	Open Uretero-lithotomy	3	0	3
	Pyelolithotomy	5	0	5
	Ureteroscopic Stone removal	9	0	9
	Cystolithotomy	2	0	2
<b>Eye (272)</b>	Cataract Surgery	272	0	272
<b>ENT (23)</b>	Tympanoplasty	4	0	4
	Myringoplasty	8	0	8
	Septoplasty	11	0	11
<b>Orthopedic (96)</b>	Bipolar Hemiarthroplasty	1	0	1
	ILN Tibia	4	0	4
	ILN Femur	5	0	5
	Proximal Femur nailing	4	0	4
	TBW patella	15	0	15
	Malleolar fracture fixation	19	0	19
	Plating Both bone forearm	44	0	44
	Supracondylar humerus fracture fixation	0	4	4
<b>Total</b>		648	225	873

Chart -1

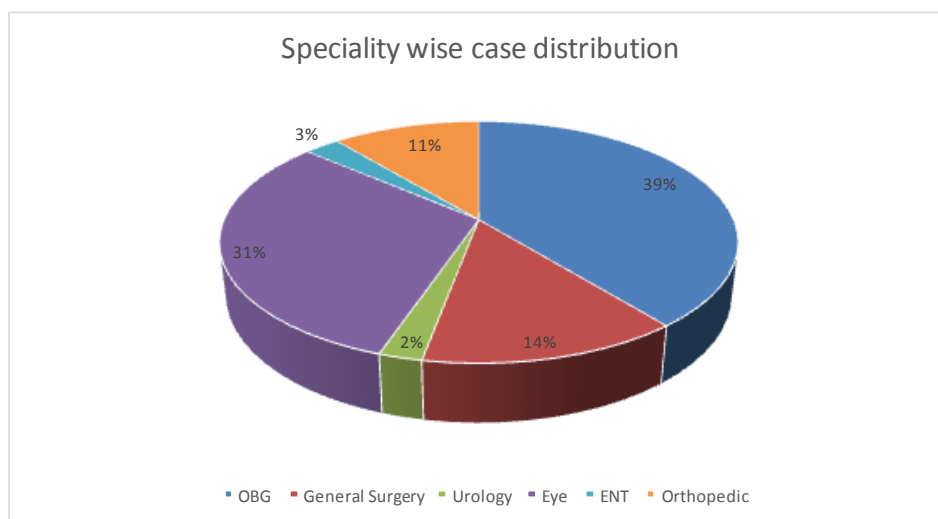
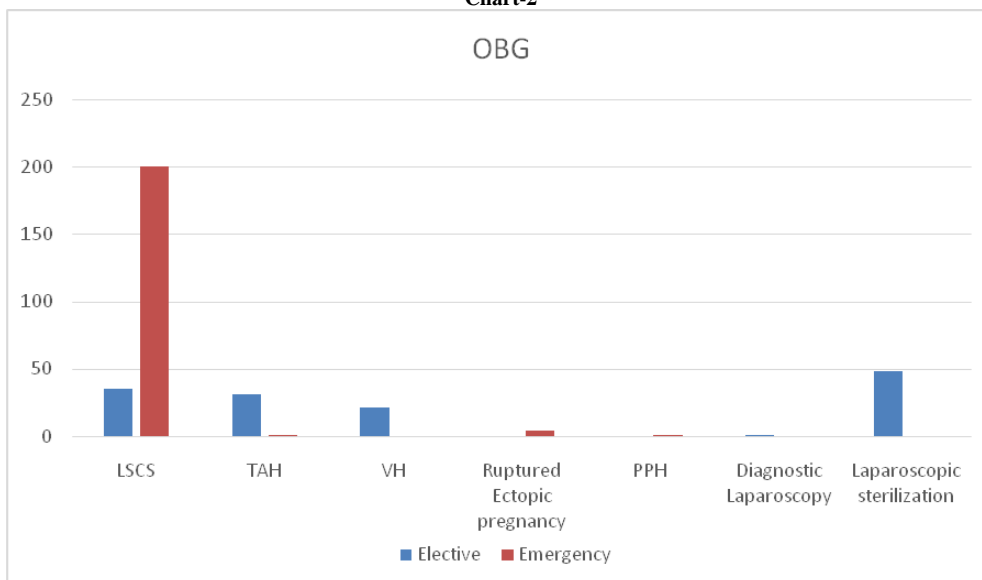


Chart-2



Orthopedic department has conducted mostly trauma surgery (96) for fractured bone. Mostly fracture reductions are done using open or C-arm guided techniques. One Bipolar hemiarthroplasty was also conducted during this time period. (Table-1, Chart-1)

ENT surgeries (23) mostly have surgeries for Deviated nasal septum and Myringoplasty. (Table-1, Chart-1)

Urological services are provided which include laparoscopic surgeries as well as open and endo-urological procedures. Among 20 surgeries, Ureteroscopic stone removal was done as common procedure. (Table-1, Chart-1)

## DISCUSSION

Six surgical specialties in a District hospital with single operation theatre has conducted 873 surgeries in period of one year. Surgery-related conditions account for the majority of admissions, especially in this primary referral hospitals. This is first kind of study done in this hospital. Concerning about the operation theatre infrastructure of single operating table for a population approximately 3.82 lakh, it is a huge task to meet the needs of area. In spite of inadequate infrastructure surgeries from various specialties has been performed out of which Maternity services tops the chart with 39 % of surgical procedure. Maternity

services are mirror of a locality. These services are showing the commitment to reduce the maternal and neonatal complication by providing timely services. Minimal invasive surgical services provide safe, effective and less complications like pain. Provision of these services is around 10 %. In limited infrastructure provision of these facilities are not as per norms. Provision of orthopedic trauma surgeries corresponds to approximately 11 %.

## CONCLUSION

To conclude it can be said that this hospital is primarily providing maternity surgical services along with other surgical specialty services. Infrastructural limitations limit the number of surgical procedures however diversity of cases being operated here is good. Provisions of all maternity services are supported by single operating table. Other surgical procedure and provision of minimal invasive surgery increase our load of patients waiting for surgery. To attend such surgical needs of the locality and reduce the disease burden, upgradation of operating room is need of the time.

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**Conflict of Interest:** None.

**Ethical Approval:** The study was approved by the Institutional Ethics Committee.

**Abbreviations:** LSCS- lower segment caesarian section, TAH- total abdominal hysterectomy, VH- vaginal hysterectomy, PPH- postpartum hemorrhage, ILN- interlock nailing, TBW- tension band wiring.

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