

**To assess the epidemiology of day care surgery in a tertiary care center**

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**Abstract**

**Background:** Day care surgery offers advantages for health care delivery system around the world and so rates have steadily increased in both developed and developing countries.

**Methods:** This study has been done in a single unit of the Department of General surgery at Indira Gandhi Medical College and Hospital, Shimla w.e.f July 2017 to Dec 2018 on patients attending the OPD as well as admitted for surgery.

**Results:** Out of 155 patients 17 (11%) were of age group 0-20 years, 85 (54.8%) were of age group 21-40 years, 39 (25.2%) were of age group 41-60 years, 14 (9%) were of age group >60 years. Youngest patient was 4 years old who underwent Herniotomy and eldest patient was 76 years old who underwent checkcystoscopy.

**Conclusion:** Age and sex was not any criteria for patient selection for day care surgery.

**Keywords:** Age, Sex, Distance.

**Introduction**

Health care system has faced several developments and has seen many changes in the last two decades. At present it is being motivated by factors such as financial management, patient satisfaction and time

management. If some system can be evolved which decreases these factors, it will be much beneficial for the patients. Recent studies have indicated that day care surgery or ambulatory surgery (AS) can offer significant advantages over inpatient surgery.<sup>1</sup> Day-care surgery is not a new concept; in fact the earliest report was in 1909 by a Glasgow surgeon James Nichol<sup>2</sup>, but the concept did not become popular till 1960 when first hospital based ambulatory unit was developed.<sup>2</sup>

Day care surgery offers advantages for health care delivery system around the world and so rates have steadily increased in both developed and developing countries.<sup>3</sup> Day care surgeries result in decompression of busy hospital beds, less nosocomial infection, early recovery in home environment with the family, less disruption of personal life and reduce expenditure of longer hospital stay. In developing countries, with problem of financial constraints, insufficient grants for health care, lack of adequate money for improvisation of operation theatres & recovery rooms and social factors, we are not able to cash on all the advantages of day care surgery.<sup>4-5</sup>

**Materials and Methods**

**Study Period:** July 2017-Dec 2018; which includes the period of enrolment, analysis and writing.

**Setting:** This study has been done in a single unit of the Department of General surgery at Indira Gandhi Medical College and Hospital, Shimla w.e.f July 2017 to Dec 2018 on patients attending the OPD as well as admitted for surgery.

**Study Design:** Observational study

**Sample Size:** Following operations were performed

Orchidopexy	Excision of ganglion, lipoma
Circumcision	TURBT, Cystoscopy, DJ Stenting
Mesh hernia repair	Herniotomy
Excision of breast lump	Enucleation of sebaceous cysts
Excision of soft tissue tumor	Enucleation of dermoid cysts
Anal fissure dilatation	Abscess Drainage
Laparoscopic Appendectomy	Surgeries for Vericocele, Hydrocele
Laparoscopic cholecystectomy	Surgeries for Fissure/Fistula in ano
Varicose vein stripping or ligation	Excision of pilonidal-sinus

Patients were selected on OPD basis for different day care surgical procedures in Department of General Surgery at IGMC Shimla, during time period of July 2017 to December 2018.

**Selection of Cases**

**Inclusion criteria:** for those operated in Major OT

- Patients were assessed as American Society of Anesthesiologists (ASA) classes I or II.
- For most procedures under GA and SA, availability of a responsible adult was ensured who escorted the patient home and provided support for the first 24 h.

- Patient stayed within 30 min of travelling distance from the hospital with adequate motivational level.
- Patient who gave informed consent for the study.
- All the cases operated under Local anaesthesia were not admitted.

**Exclusion criteria**

Patient with the following criteria were excluded:

- Patients with extreme obesity and co-morbid conditions like poorly controlled diabetes, hypertension, and coronary artery disease or ischemic heart disease and with ASA III and IV.

**Observations**

This observational study was conducted in the Department of surgery, I.G. Medical Collage, Shimla from 1st July 2017 to 31<sup>st</sup> December 2018 and included 155 patients selected for day care surgery who presented in surgery unit 3 O.P.D / emergency. Patients were selected for day care surgery after taking written consent from patient / attendant in case of minors and disabled, after explaining the procedure in their own language. Following observations were made---

There was no age limit in our study. Out of 155 patients 17 (11%) were of age group 0-20 years, 85 (54.8%) were of age group 21-40 years, 39 (25.2%) were of age group 41-60 years, 14 (9%) were of age group >60 years. Youngest patient was 4 years old who underwent Herniotomy and eldest patient was 76 years old who underwent checkcystoscopy.

**Table 1: Age Distribution**

Age( in years)	Frequency(n)	Frequency (%)
< 20	17	11
21-40	85	54.8
41-60	39	25.2
>60	14	14

Out of 155 patients, 52 (33.5%) were males and 103 (66.5%) were females.

Table 2: Gender Distribution

Gender	Frequency (n)	Frequency (%)
Male	52	33.5
Female	103	66.5

Out of 155 patients 103 (66.5%) were of urban background and 52 (33.5%) were of rural background. (Table -5, Figure 3)

Table 3: Address

Address	Frequency(n)	Frequency (%)
Urban	103	66.5
Rural	52	33.5

Out of 155 patient 65 (41.9%) were staying in an area which was within 00 to 05 km from hospital, 56 (36.1%) were in an area within 06 to 10 km, 13 (8.4%) were staying within 11 to 15 km, 5 (3.2%) were staying within 16 to 20 km and 16 (10.3%) were staying in an area more than 20 km away from hospital. (Table-6, Figure-4)

Table 4: Distance of Home from Hospital

Distance of home from hospital (Km)	Frequency (n)	Frequency (%)
0-5	65	41.9
6-10	56	36.1
11-15	13	8.4
16-20	5	3.2
>20	16	10.3

Out of 155 patients 139 (89.7%) were at a time distance of 00-2 min from roadside, 11 (7.1%) took 3-4 min to reach road side, 5 (3.2%) were at a time distance of 5 or >5min. (Table-7, Figure- 5)

Table 5: Time Taken To Cover the Distance of Home from Road Side

Time distance of home from road-side(In minutes)	Frequency (n)	Frequency (%)
0-2	139	89.7
3-4	11	7.1
5 or >5	5	3.2

### Discussion

There was no age limit in the present study. Minimum age was 3 year old patient and maximum age was 76 years. 17% were of age group 00-20 years, 54.8 % patients were of age group 21-40 years, 25.2% were of age group 41-60 years and 9% were of age group >60 years. There were no adverse peri-operative outcomes in the study depending on age factors and age has nothing to do with the acceptability for Day care Surgery. J.Fortier et al conducted a prospective cohort study of 15127 patients undergoing ambulatory surgery and found that age did not predict unanticipated admission<sup>6</sup> Out of 155 patients 52 were male and 103 were female. There was nothing in literature to suggest about better acceptance and success of Day Care Surgery in patients depending upon the gender being male or female.

In this present study 66.5% patients were from urban area and 33.5% were from rural area. There is nothing in literature to suggest about the acceptability of the procedure depending upon the geographical distribution of the patients upon the area being urban or rural.

139 (89.7%) were staying in an area which was within 20 km and 16 (10.3%) were more than 20 km away from hospital but within 30 km. In the present study 97.4% patients were discharged successfully as a day care surgery according to criteria of <23 hours from admission. 85.8 % of these were discharged within 12 hours. It is in accordance with the study conducted by S.Bal et al at AIIMS, New Delhi, India where 93%

patients were successfully discharged after day care surgery in patient from a distance of 20 Km from hospital.<sup>7</sup>

Out of 155 patients 150(96.8%) were at a time distance of 00-5min from roadside and 5(3.2%) were at a time distance of >5min including stairs and mild steep. There is nothing in literature to suggest about the effect of time distance of road from home on acceptability and outcomes of Day Care Surgery results.

### **Conclusion**

Age and sex was not any criteria for patient selection for day care surgery.

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