



Day Care Surgery – A Feasibility Study:

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ABSTRACT

Day surgery is a cost-effective, quality approach to surgery that has expanded rapidly in recent years. The present study describes the feasibility of establishing Day Care surgery unit in a tertiary care teaching hospital conducted in Nizam's Institute of Medical Sciences, Hyderabad, India, using a structured questionnaire among Healthcare professionals. The present study focuses on the need to establish a separate and well staffed and equipped day care surgery unit in collaboration with all other departments to effectively manage the hospital beds. The study infers that most of the Health-care professionals preferred to establish a Day Care Surgery unit with separate team of health-care professionals with separate Outpatient clinic, Operation theatre and separate Laboratory facilities collaborated with the central laboratory.

KEYWORDS : Outpatient Surgery, Day care Surgery

BACKGROUND:

Outpatient surgery and anesthesia which started as a money saving modality has picked up momentum even in India in the last one decade due to innovations in surgical techniques and advances in anesthesia. On the basis of a number of studies and the current practice in India, it can be recommended that a number of operative procedures on carefully selected patients of all age groups can be conducted on day care basis even in public hospital setting.¹

The earliest reference for day care surgery is mentioned as early as beginning of the 19th Century by James Nicoll a Glasgow surgeon who performed almost 9000 outpatient operations on children in 1903² and later in 1912 when Ralphwaters from Iowa, USA described "The Down Town Anesthesia Clinic", where he gave anesthesia for minor outpatient surgery.³ However, over the next two decades, it lost its momentum. In 1960, the first hospital based ambulatory unit was developed. The formal development of ambulatory anesthesia occurred with the establishment of the 'Society for Ambulatory Anesthesia' (SAMBA) in 1984⁴ and with the evolution of postgraduate subspecialty training program. The potential for day care surgery has increased over the last few years.

Day Case Surgery means patient is admitted for surgical procedure as a treatment or as an invasive diagnostic purpose on a planned non-resident basis but who requires facilities for recovery. All patients of day care surgery are discharged on the same day or within 24 hours after recovery.⁵

This concept of Day Care Surgery has become popular for the advantages like shorter waiting time for operation theatre as inpatient and avoid psychological trauma of prolonged separation from the family and home, in case of child patient especially, early mobilization of the patient, lower hospital cross infection rate, minimize possible G/A hazards, Cost effectiveness, minimize the bed occupancy, etc.^{6,7} and with limited disadvantages like limited care available to the patient, intermediate and late complication may be missed, complicated cases cannot be done, etc.

The present study describes the feasibility of establishing Day Care surgery unit in a tertiary care teaching hospital conducted in Nizam's Institute of Medical Sciences, Hyderabad, India. The Institute is a super-specialty 1200 bedded hospital, providing

all kind of surgical services except for Obstetrical, gynecological, ENT and ophthalmic services. The study was conducted among health care professionals working in the hospital to understand the feasibility of establishing Day Care surgery unit along with their opinions.

METHODOLOGY:

The present study is a cross-sectional study based on a structured questionnaire containing 11 questions, done among Health-care professionals of Nizam's Institute of Medical Sciences, Hyderabad, a tertiary care teaching hospital. The study population includes Health-care professionals, i.e. Doctors, Nurses and Technicians. A sample of 100 Health-care professionals including 50 doctors, 25 nurses and 25 technicians, selected based on convenience sampling technique, who are willing for study are considered for the study in the month December 2012. The questionnaire consists of 11 structured questions regarding feasibility of establishment of Day Care Surgical Unit in the institute. The data collected analyzed and summarized based on Descriptive Statistics.

OBSERVATIONS AND RESULTS:

The questionnaire with 11 structured questions was circulated among 100 Health-care professionals (50 Doctors, 25 Nurses and 25 Technicians) and the observations are summarized in Table 1 and Table 2.

It was observed that 85% of health-care professionals supported the idea of introducing Day Care surgery unit in the hospital. 72% of health-care professionals felt the need for establishing a separate day care surgery unit in the hospital. When interviewed for location of day care surgery unit 78% of health-care professionals suggested that Out-patient department is an ideal location for establishing the day care surgery unit and 15% suggested paying rooms as ideal location. 81% of the professionals suggested the requirement of separate Out-patients services for the patients requiring care surgery, referred from other departments or hospitals. This separate OP services also help for the follow-up of the patients. The expected number of patients per day for day care surgery in various departments was felt to be less than 20 by 43% health-care professional and 52% of professional expected an attendance of 20-30 patients per day. Based on the expected number of patients, 62% of health-care professionals suggested that the day care surgery unit requires a 20 bedded ward. Staffing of nurses for the ward got mixed opin-

ions. 40% of the professional suggested that 1 nurse is required for 3 patients in each shift accounting for 1 nurse per each patient per day and 32% suggested the requirement of 1 nurse for 4 patients in each shift accounting for 1.33 patients per day. Around half i.e. 55% of health-care professionals felt the need of special training for the staff posted in the day care surgery unit. 77% of the professional expressed the need for availability of separate laboratory facilities for the unit. Most of them, 95% of the professionals suggested establishing a separate Operation theatre for day care surgeries to run the unit smoothly to avoid any lag or waiting list of the patients. It was surprising to note that 71% of the professional requested for creating a higher tariff for day care surgeries in compared to the other surgeries.

Table 1: Responses of Health-care Professionals for Establishment Day Care Surgery Unit:

S. No.	Questions	Doctors		Nurses		Technicians		Total	
		Yes	No	Yes	No	Yes	No	Yes	No
1	Support idea of introducing day care surgery unit	45	5	22	3	18	7	85	15
2	Necessity of separate Day-care unit	38	12	18	7	16	9	72	28
3	Separate Out-Patient for Day-care unit	42	8	21	4	18	7	81	19
4	Special training required for staff	35	15	15	10	5	20	55	45
5	Separate lab facilities required	38	12	19	6	20	5	77	23
6	Separate Operation theatre required	48	2	22	3	25	0	95	5
7	Tariff should be same as other services	18	32	4	21	7	18	29	71

Table 2: Suggestions of Health-care Professionals for Establishment Day Care Surgery Unit:

S. No.	Question	Doctors	Nurses	Technicians	Total	
1	Ideal location	OPD	45	18	15	78
		Near wards	3	2	2	7
		Paying rooms	2	5	8	15
2	No. of patients expected per day	<20	20	12	11	43
		21-25	10	8	10	28
		26-30	15	5	4	24
		<30	5	0	0	5
3	No. of beds required	10	10	2	8	20
		20	35	15	12	62
		30	5	12	5	18
4	Nurses : patients	1:2	0	0	4	4
		1:3	20	10	10	40
		1:4	18	8	6	32
		1:5	12	7	5	24

The health-care professionals were asked to give other suggestions regarding the day care surgery unit. Many have suggested to establish a separated unit headed by a General Surgeon with complete staffing of nurses and technicians and surgeons from various departments would coordinate with the unit for consultations and referrals.

DISCUSSION:

The concept of day case surgery has been widely discussed. It has some clear advantages; the main incentives are related to

cost and 'productivity' rather than optimal care of the patients.⁸

It can be clearly inferred that most of the Health-care professionals preferred to establish a Day Care Surgery unit with separate team of health-care professionals with separate Outpatient clinic, Operation theatre and separate Laboratory facilities collaborated with the central laboratory. The patient can attend the outpatient directly or can be referred by other surgical departments. A need to establish a separate team of healthcare professional, well trained for day care surgery, in synergism with all other departments of hospital was felt.

The ideal location for establishing day care surgery unit was suggested as Outpatient department, as it is easy for patients to access the unit. Because of the topographical variations, and the absence of strict laws and the quality control, outpatient surgery in India is performed in chemist's shops, private clinics, nursing homes, primary health centers, civil hospitals, peripheral medical colleges as well as tertiary care centers. Extra surveillance is required while screening patients for outpatient surgery.¹

Around 20 patients per day are expected to attend for day care surgery. Hence, most of the healthcare professional felt that a 20 bedded ward would be sufficient in handling day care surgeries with effective management of patient flow. It was suggested that day care surgery unit should be managed like other Intensive care unit and should be staffed and equipped similarly. It was suggested to post 1 nurse for 3 to 4 patients in each shift to effectively supervise the patients.

It was surprising to note that majority of healthcare professional suggested an increase in tariff for day care surgery in comparison with other routine surgical procedures. Since the hospital is a government teaching hospital, same tariff can be applied for day care surgery as other procedures. In contrast, private hospitals may charge higher tariff.

Day case surgery relieves the dependency on the available hospital beds for a number of cases. This increasing output of this surgical services. This has been seen dramatically in All India Institute of Medical Sciences (AIIMS), New Delhi, where the ENT department started a day care operation theatre (OT) in 1995 and also in Armed Forces Clinic (AFC), New Delhi in 1996.⁹

Day case surgery is feasible, safe and economic. The tremendous success of day care surgery is due to advances in surgical as well as anesthetic techniques and proper postoperative recovery care. In a study by M Saiful Islam, et al (2007), the authors suggested that certain selection and exclusion criteria be maintained for patient selection for day case surgery.¹⁰

The success and safety of an ambulatory surgery program depends on patient's understanding and compliance. The success of day-care surgery depends, to a large extent, on both effective control of postoperative pain and minimization of side-effects such as sedation, nausea and vomiting. Inadequate analgesia after surgery is a problem. Side effects that might be regarded as minor in the inpatients may contribute to unexpected admissions in the day-care setting. Prolonged recovery may disrupt patient flow and increase institutional costs per patient.¹

CONCLUSION:

Day surgery is a cost-effective, quality approach to surgery that has expanded rapidly in recent years. It is safe, feasible and immense benefit to the patients as well as economical to the organization. The present study focuses on the need to establish a separate and well staffed and equipped day care surgery unit in collaboration with all other departments to effectively manage the hospital beds.

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