Original Article

Audit on elective surgery waiting list in the department of ENT- Head and Neck Surgery in a tertiary care center

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Abstract

Introduction: Patients needing surgical treatment for benign conditions are listed on first come first served basis in the department of ENT- Head and Neck Surgery (ENT-HNS), Tribhuvan University Teaching Hospital, Kathmandu, Nepal. The objective of this audit was to determine the average waiting period for elective surgery in various subspecialty units of the department and the patient turn up rate on the scheduled date.

Methods: This was a retrospective audit based on the elective surgical waiting list register of year 2073 B.S. of four subspecialties in the department; namely unit I-Otology, Unit II- Head & Neck surgery, Unit III - Pediatric ENT and Unit IV- Rhinology

Results: The overall average waiting period for elective surgery was 10.6 weeks. For GA cases it was 10.4 weeks for unit I and II, 13.2 and 8.3 weeks for unit III and IV respectively. For LA cases, waiting period in unit I and IV was 16.9 and 2.5 weeks respectively. The overall turn up rate on the scheduled contact date was 40.8% (46% for GA cases and 31% for LA cases). For unit I, it was 50% for GA cases and 26.6% for LA cases. For unit II and unit III GA cases, turn up rate was 38.4% and 43.8% respectively. In unit IV, it was 53.3% for GA cases and 66% for LA cases.

Conclusion: The patient turn up rate on contact date in general decreased with longer waiting period for elective surgery.

Key Words: Elective surgery, ENT, waiting list

Introduction

Public hospitals carry relatively higher patient load as compared to the private hospitals due to cost factor especially in the developing countries. But many a times, these public hospitals are limited in both financial and human resources. This leads to an imbalance between demand and supply of the health services. Creating a waiting list for the service can be a measure to overcome the imbalance.[1]However, due to the increasing demand of hospital services, the waiting time can be long with highly variable care and outcomes.[2]The management of waiting list for surgical cases is even more crucial as all the cases do not carry the same priority and risks. A well managed surgical waiting list hence should prioritize the cases based on the urgency to be treated as some cases can deteriorate over a short time while others can remain stable.

Department of ENT-Head and Neck Surgery (ENT-HNS) at Tribhuvan University Teaching Hospital (TUTH) being a tertiary referral center has an average patient flow of about 6000 per month. Any patient requiring elective surgery for benign disease is listed on a first come first served basis. However, patients with malignant neoplasm, severe or complicated diseases are given priority after being listed on chance basis.

The department has four different subspecialty units namely unit I - Otology, Neurotology& Lateral skull base surgery, unit II- Head & Neck and Reconstructive surgery, unit III -Paediatric ENT and Airway Surgery and unit IV - Rhinology, Allergy and Anterior Skull

Base Surgery. Each unit has one dedicated operating day each week with two General anesthesia (GA) operating tables running simultaneously. In addition, Unit I has three local anesthetic (LA) surgery days and at least one LA day for unit IV in a month. A separate waiting list and operation theatre (OT) register is maintained for each unit.

Being a tertiary care centre with high patient flow, patients do need to wait a certain time before they get operated. This may affect the patient turn up rate. So, the objective of our study was to determine the average waiting period for elective surgery in various subspecialty units in the department of ENT-HNS, the patient turn up rate on the scheduled date and to compare the results with that of previous audit.

Methods

This was a retrospective rolling audit of the elective surgical waiting list register dated from 1st Baisakh to 30th Chaitra 2073 (13 April 2016 to 12 April 2017) in the department of ENT-HNS, TU Teaching Hospital, Maharajgunj, Kathmandu, Nepal. The data was obtained from the waiting list register maintained at the outpatient department and OT register in the operating theatre. The average waiting period in weeks for ENT surgeries, the turnover rate of patients on routine scheduled date, total number of surgeries performed on the scheduled date and on chance basis were assessed. The data was analyzed using frequencies. These findings were compared to the findings of the previous audit.

Results

Patients visiting the ENT OPD in the year 2073 totaled to 71,732 out of which 2,617 (3.64%) patients were scheduled for surgery. Of the patient on waiting list, only 1068 (40.8%) turned up on the contact date. Of the patients turning up on the contact date, 947 (88.1%) had their surgery on the scheduled date whrist, 127 (11.89%) cases were either canceled or postponed due to reasons like active infection, patient's request, unfit for GA or to adjust malignant or complicated cases. The remaining space was filled with chance basis cases. A total of 1636 surgeries were done on elective basis with 695 (42.5%) patients included in the elective list from chance basis.

The overall average waiting time for elective surgery was 10.6 weeks ranging from 0.9 to 31.1 weeks.

In unit I, the average waiting time for GA cases was 10.4 weeks (range 3.1 to 22.7 weeks) and 17 weeks (range 2.9 to 31.1 weeks) for LA cases. Analyzing it further based on months, the average waiting period was shorter for the first half than the second half of the year for both GA and LA cases (Figure I and II).

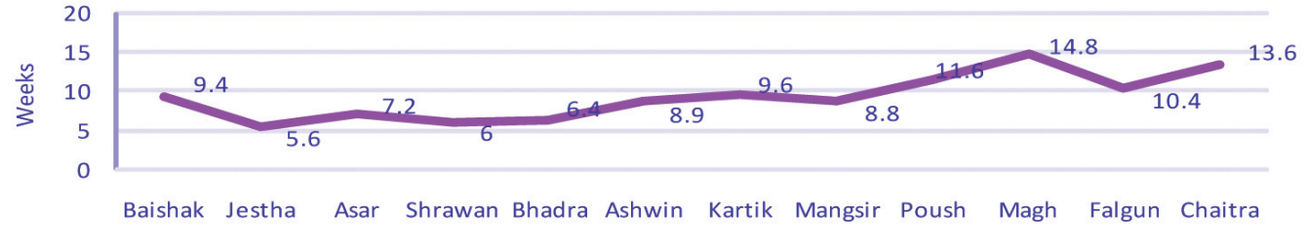

Figure I: Monthly average waiting period in 2073 B.S for GA elective surgery in Unit I

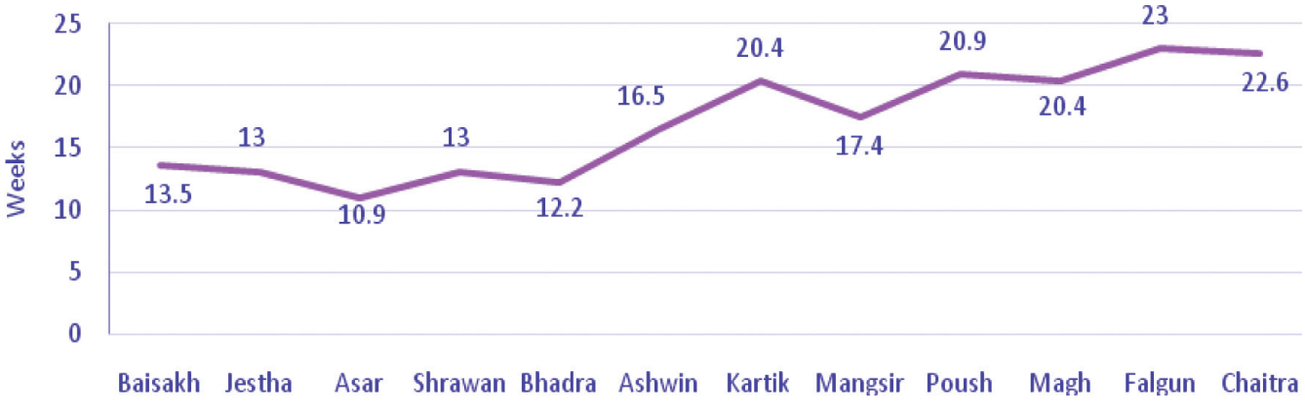

Figure II: Monthly average waiting period in 2073 B.S. for LA elective surgery in Unit I

Similarly, in unit II, the average waiting period was 10.4 weeks (range 1.9 to 17.9 weeks). The waiting period was in an increasing trend with it being shorter in the first three months as compared to the latter months (Figure III).

Figure III: Monthly average waiting period in 2073 B.S. for elective surgery in Unit II

In Unit III, the average waiting period for the elective surgery was 13.2 weeks (range 1.4 to 24.3 weeks). The waiting list trend was similar to other units, being shorter in earlier months of the year and longer in the latter months of the year (Figure IV).

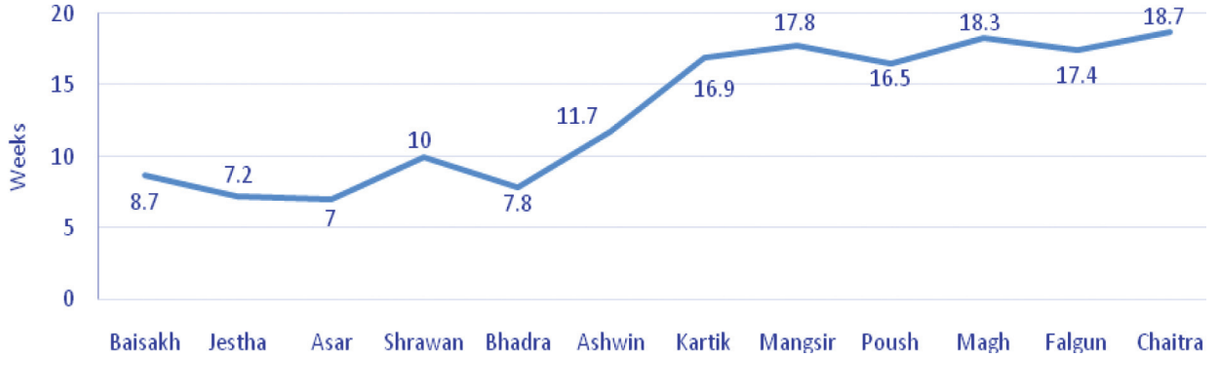

Figure IV: Monthly average waiting period (in weeks) in 2073 B.S. for GA elective surgery in Unit III

In Unit IV, the average waiting period for the surgery under GA was 8.3 weeks (range 2.1 to 16.7 weeks) and 2.5 weeks (range 0.9 to 7 weeks) for LA cases. The trend of waiting period in unit IV showed longest waiting period for middle months of the year and shorter for early and latter months of the year (Figure V and VI). There was no LA OT day in the month of Kartik due to public holiday hence no data in that month (Figure VI).

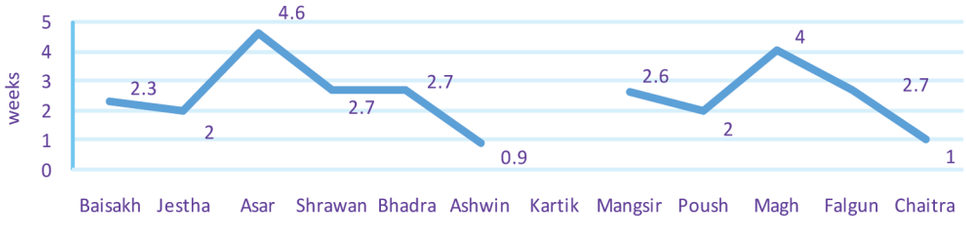

Figure V:Monthlyaverage waiting period in 2073 B.S. for GA elective surgery in Unit IV

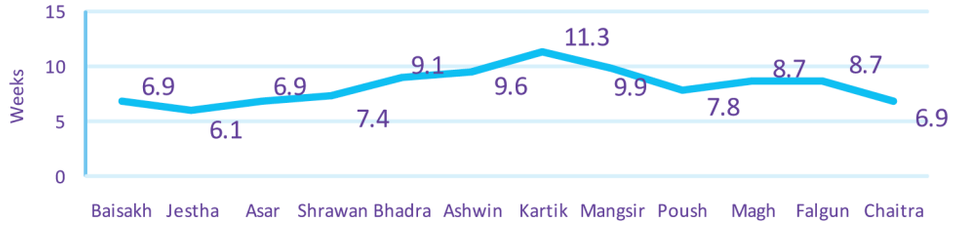

Figure VI: Monthly average waiting period in 2073 B.S. for LA elective surgery in Unit IV

When the average waiting period for GA cases was compared with the audit of previous year (2072 B. S.), the waiting period reduced for unit I, III & IV but increased slightly for unit II. The reduction in unit I was by more than 3 weeks, but for other units the change was limited to about a week (Figure VII). For LA cases, both unit I & IV had waiting list shortened. In unit I, it was by more than 4 weeks and in unit IV by about 2 weeks than previous audit (Figure VIII).

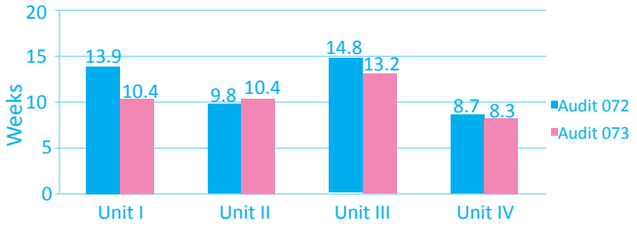

Figure VII: Comparison of average waiting period (in weeks) for elective surgery under GA in different units in the year 2072 and 2073 B. S.

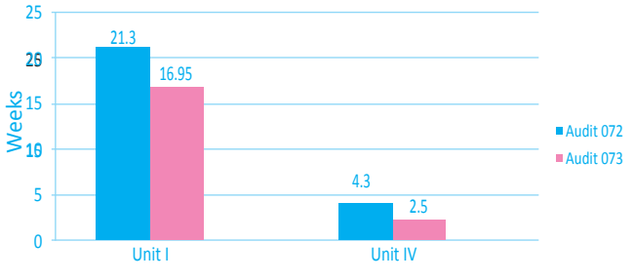

Figure VIII: Comparison of average waiting period (in weeks) for elective surgery under LA in different units in the year 2072 and 2073 B. S.

Evaluation of patient turn up on contact date showed average turn up rate of 46% for GA cases and 31% in LA cases. The highest turn up of GA patients was for unit IV (53.3%) and the lowest for unit II (38.4%).The turn up rate decreased in unit I and II but increased in unit III and IV on comparing it with previous audit result (Figure IX).Similarly, for LA cases, the highest was for unit IV (66%) and the lowest for unit I (26.6%). Compared to previous year audit, it increased for unit IV but decreased for unit I (Figure X).

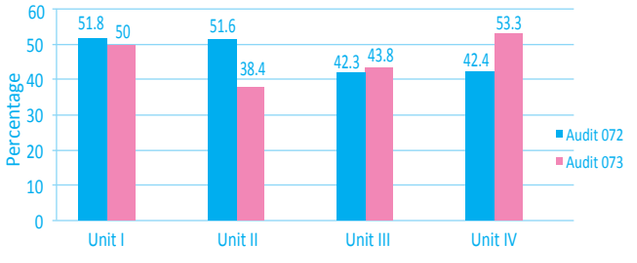

Figure IX: Comparison of percentage of patients turn up on the contact date for elective surgery under GA in different units in the year 2072 and 2073

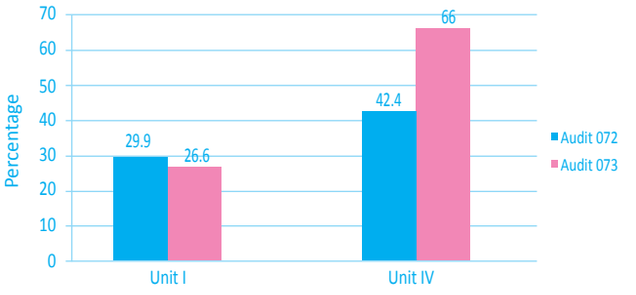

Figure X: Comparison of percentage of patient turn up on the contact date for elective surgery under LA in different units in the year 2072 and 2073.

When comparison was made between the duration on waiting list for the elective surgery with the patients turn up rate on the contact date, the general trend showed that longer the waiting period lesser was the turn up rate for both GA and LA cases (Figure XI and XII).

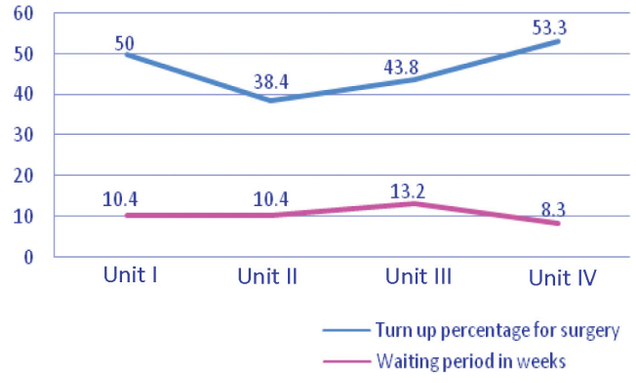

Figure XI: Comparison of waiting period for elective surgery under GA with rate of patient turn up on contact date

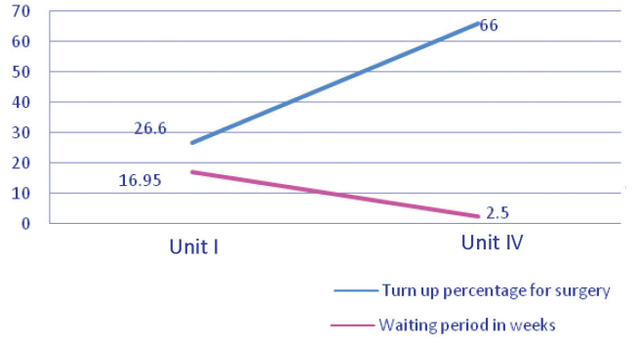

Figure XII:Comparison of waiting period for elective surgery under LA with rate of patient turn up on contact date

Discussion

The surgical waiting period is the time between the clinician's decision to treat the patient surgically following clinical assessment and the hospital admission for the proposed surgery. The waiting period

for the ENT surgeries differs at different centers and different countries depending on the patient workload and resources available. The maintenance of the waiting list helps in prioritizing patients based on their clinical needs. Patient on long waiting list can have change in the status over time and the original diagnosis cannot be relied on.[3]Developed countries maintain proper waiting list, but the maintenance of waiting list in developing countries is not well established.[4]To reduce the elective surgery waiting list, countries like UK, USA, Canada, Italy follow concept of Surgical waiting list initiative.[4,5] But, unfortunately, our country does not have any nationwide system for the waiting list management and we do not have published data on waiting time for the elective surgery.

Being a public and relatively affordable tertiary referral center, our department carries a good load of the patients needing surgery. The waiting list system here is paper based with the elective cases being listed by first come first served basis. Based on this audit, the average waiting period for surgery for benign cases in our department was 10.6 weeks. The international data also vary in the duration of the waiting list for the surgery. In UK, mandatory time frame of 18 weeks is recommended before definite treatment is delivered.[4] The median waiting period for elective surgery in different Organization for Economic Co-operation and Development (OCED) countries varied from 3.5 weeks to 12 weeks.[1] This waiting list is for all surgical cases of all specialties, hence different from our waiting period limited to ENT elective surgeries.

The average waiting period in different unit was not much different with longest in pediatric ENT unit which could be due to the fact that many centers in Nepal do not have specialized pediatric ENT unit. The audit done on pediatric ENT appointment for surgery in our department in 2011 showed that 51% of the patients had waiting period of 5-6 months.[6]This has drastically reduced to an average of 3.3 months in this audit which could be due to availability of two GA OT per week compared to one GA OT per week in 2011.

When month wise trend of waiting period was evaluated, it was seen that earlier months of the year had shorter waiting period compared to latter month in all units. It was because of the strategy to list patients till the end of the Nepalese calendar. Any remaining patients were requested to visit the hospital in the first month of the subsequent year to be enlisted. This was so because the subsequent year's list could be filled only after the working calendar from Tribhuvan University was made available to avoid listing patients on public holidays. This lead to shorter waiting period for earlier months and long waiting for latter months of year.

Comparing the average waiting period of each unit with the audit of previous year, all units had reduced waiting period except for head and neck unit. The longer waiting period of previous audit could be attributed to the disturbance caused by the earthquake. For head and neck cases, being a tertiary referral center, complicated and cases requiring multispecialty management are referred to our center more often thus increasing the waiting list.

The average turn up rate for the surgery on the contact date was 46% for the GA cases which was highest for rhinology unit and lowest for head and neck unit. For LA cases, the turn up rate was low at 31% only. In study by Appavu et al, the turn rate for ENT surgery on scheduled date was about 58% which was higher than in our department.[7]

On comparing the rate of turn up for the surgery with the average waiting period, the trend showed that longer the waiting period lesser was the turn up rate for the surgery. So, rhinology unit had highest turn up rate as it had shortest waiting period of the four units.

Comparison of the turn up rate with previous year audit showed not much difference from this audit for the otology and pediatric ENT unit. But, head and neck unit had drop in turn up rate by more than 13%, although waiting period was similar in both audits. This could be due to increased awareness in patients to seek earlier treatment as well as availability of treatment in other alternative centers with shorter waiting period. Patients especially from outside Kathmandu valley often choose to have surgery in the same visit to the city to avoid financial and time constraints associated with subsequent visit for the same surgery.

The consequence of low turn up rate for surgery leads to unfilled elective list. Although attempts are made to fill up the list from chance basis and also by calling up patients, it may not be always feasible as patients may not be willing for surgery at such short notice. So an unfilled list reduces the efficient operation theatre management. This also unnecessarily increases the waiting period as patients are listed in the next available list to avoid overbooking once the list is full. This can thus be a vicious cycle.

Different departments and centers maintain waiting registers as per their convenience. There is no systemic management of waiting list and no system for prioritization. This can lead to list being manipulated. So, this audit could be the starting point for the proper management of the waiting list in different departments and centers in our country. We can generate national level data and strategies for elective surgery waiting list management.

This study has some limitations as it was a retrospective review of the paper based record which could have led to some missing data.

We recommend electronic data base system for the waiting list and secretariat service to deal with patient on waiting list. We also recommend a reminder system for the patients on waiting list who are nearing their contact date so that turn up rate can be increased. If the theatre hours can be increased, it will reduce the waiting period and may increase the turn up rate for the surgery.

Conclusion

The average waiting period for elective surgery under GA in the ENT-HNS department was 10.6 weeks, shortest for rhinology cases and longest for the pediatric ENT cases. Except for head and neck surgery unit, all other subspecialty unit had reduced average waiting period for elective surgery compared to previous audit. Patients' turn up rate on contact date for elective surgery under GA was 46% and under LA it was 31%. It was highest for rhinology GA cases and lowest for the head and neck GA cases. When compared with previous year audit, turn up rate increased for the pediatric ENT and rhinology unit while it decreased for otology and head and neck unit. The turn up rate on contact date generally decreased with longer waiting period for elective surgery.

Conflict of interest: None declared.

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