

TITLE: Disease and economics burden of five ENT procedures in a teaching hospital

Introduction

Although ENT cases were only 2%, they usually fell under secondary diagnosis and under-reported. Meanwhile, tonsillectomy was found to be common in Malaysian Government Hospitals. This study aims to establish the disease and economic burden of five most expensive procedures according to expert at one of the teaching hospitals in Malaysia.

Methods

Retrospective data from electronic medical record for ENT admission in 2020 were obtained. Information related to admission such as primary data and secondary diagnosis and free text procedures were extracted. The data was coded by trained coders which combine both ICD-10 for the diagnosis and ICD9-CM for the procedures and imported into a case-mix grouper to generate the DRG codes. Simultaneously, clinical pathway for the five procedures were collected from experts. Following the clinical pathway, bottom-up costing approach was conducted to estimate the healthcare resource utilisation. The Average Length of Stay (ALOS) was based on clinical pathway, not on patient level data. The cost data were reported in US\$, the price year 2020.

Results

Among the total ENT in-patient cases, there were 19 tonsillectomy cases, 31 tracheostomy cases, 4 FEES cases, 27 radical neck dissection cases, and 0 cochlear implant cases in 2020.

The most common DRG for tonsillectomy was Tonsil & Adenoid Operations – Minor (U-1-15-I) (n = 16 (88.89%)). The mean ALOS was 3.34 days. The range of LOS = 3 – 35 days. The mean age = 37.61 years old (Range: 13 – 72). The male patients were 8 (44.44%) and the female patients were 20 (55.56%).

The most common DRG for tracheostomy was Other Ear Nose Mouth & Throat Operations Minor (U-1-20-I) (n = 10 (32.23%)). The mean ALOS was 6.8 days. The range of LOS = 2 – 109 days. The mean age = 53.52 years old (Range: 19 – 85). The male patients were 20 (64.5%) and the female patients were 11 (35.5%).

The most common DRG for radical neck dissection was Other Head & Neck Operations – Minor (U-1-11-I) (n = 15 (55.56%)). The mean ALOS was 6.53 days. The range of LOS = 1 – 50 days. The mean age = 48.36 years old (Range: 0 – 88). The male patients were 283 (56.9%) and the female patients were 214 (43.1%).

For FEES cases, the mean ALOS was 5.5 days. The range of LOS = 3 – 7 days. The mean age = 72.25 years old (Range: 66 – 78). The male patients were 3 (56.9%) and the female patients were 1 (25%).

The cost for the five procedures based on ALOS of 3 days; tonsillectomy, tracheostomy, radical neck dissection, FEES, and Cochlear Implants; were US\$755.39, US\$1,106.96, US\$1,350.66, US\$875.92, and US\$1,571.39 respectively. The total cost for the total

procedures conducted in 2020 were US\$14,352.41, US\$34,315.76, US\$36467.82, US\$6,285.56, and US\$0.00 respectively.

Conclusions

In conclusion, although the statistics for the 5 procedures were small and the cases were minor cases, they incur huge amount of resources. Hence, this study can be used to perform better budget planning especially for ENT department. (486 words)