CHAPTER 5

DISCUSSION

1. The samples

There were 120 in-patient history records enrolled for this study. The records belonged to 56 males(47% of all) and 64 females (53%of all). The majority of the samples were of age between 21-30 years (40.83% of all) and the minority were between 61-70 years old (2.5%of all). The average age of the samples was 29.93 years and the mode of LOS was 3 days. It is noticeable that the average age of the samples was not so high, it might be related to the old people normally have the potential to have underlying diseases more than the younger people. They therefore could not pass the eligibility and ineligibility criteria to meet the criteria of appendectomy without the underlying disease of this study.

2. The length of stay and unit cost of RSC of IPD-ordinary surgical wards of appendectomy

The LOS of the samples varied from 2 days to 5 days. The mode LOS was 3 days. From the data, The minimum LOS was 2 days and their average ages were 32 years. There were only 2 cases from 120 cases (1.67% of all) had to stay for 5 days and their ages were more than 50 years. However, it was not obviously seen that the ages of the samples could effect the LOS since there were only 2 cases from 120 cases. It was obvious that the average LOS of the samples was not so long because all of them did not have any complication.

The unit cost of RSC of IPD-ordinary female surgical wards of appendectomy was 8,543.37 baht and for IPD-ordinary male surgical ward of appendectomy was 9,445.25 baht. From the study, the unit cost of RSC of ward for appendectomy depended on the LOS since it was calculated from the RSC per day of IPD-ordinary

female and male surgical wards. It is obvious that the RSC of ward increases proportionately with the LOS could vary the unit cost of RSC of ward for appendectomy.

3. The operation duration of appendectomy and the unit cost of OR PH.P.R. 5 for appendectomy

The operation duration of appendectomy varied from 40 minutes to 120 minutes. The average operation duration was 70 minutes and the unit cost of OR PH.P.R. 5 for appendectomy was 5,911.66 baht. The majority of the appendectomy times were between 61 - 75 minutes (41 cases) and the minority were between 106-120 minutes (7 cases).

When the operation duration of the samples were categorized by the anesthetic method, this study found that 91.67 % of the samples received the spinal block method and the left received the general anesthesia (8.33% of all). The average operation time of the samples who received the SB was 67 minutes and for the GA method was 82 minutes.

From the study, the unit cost of OR PH.P.R.5 for appendectomy increases proportionately with the operation time as it was calculated from the RSC of OR per hour per bed. Since the average operation duration of GA method was longer than the SB method therefore its unit cost was higher than the SB method.

It should be noted that the anesthetic method might vary the operation time but the information of this study was still not enough since there were only 10 samples who received the GA methods from 120 samples. However the anesthetic method is chosen from the patient's conditions, the anesthetist and the patient's decision. It is obvious that most appendicitis patients of King Chulalongkorn Memorial Hospital receive the SB method more than GA method.

4. The medical care costs

The cost of the investigations

The most common investigations for appendicitis patients were Routine CBC, Anti HIV and routine urinalysis (124, 108, 86 cases respectively). The average cost of investigations of the samples was 502.35 baht. From the data, the investigation cost of the samples varied from 64.06 baht to 1,926.62 baht. It is noticeable that the costs increase significantly, due mainly to the cost of ultrasound.

The cost of medicines

The most common injected antibiotic used for the sample was Metronidazole and the secondary was Gentamicin, The average cost of medicines used for the samples was 199.44 baht. From the data, the medical costs of the samples varied from 0 baht to 746.60 baht. Antibiotic medicines, such as Metronidazole, Gentamicin, Cefoxin are major items that cause variation in medical costs.

5. The unit cost of DRG for Appendectomy

From the study, the unit cost of DRG for appendectomy of female patient was lower than male patient (15,156.82 baht and 16,058.40 baht respectively). The unit cost of DRG for appendectomy was 15,607.76 baht..

Drummond MF. et al stated that the hospital cost can be considered to consist of two elements; the hotel cost, which is broadly constant over the length of stay and the treatment cost, which may peak just after admission but then tail-off in the later days of the stay [20]. As shown in figure 5, the hotel shares the largest proportion and increases according to the patient's length of stay and the secondary is the operation cost that likewise, increases proportionately with the operation times. Costs accorded with investigation and materials share minor parts of the totals. It therefore can be appraised that the varying of LOS has the most effect to the unit cost of appendectomy.

Since this study would like the results to be applicable to the general appendicitis patients, therefore the departments concerning this study are the IPD-

ordinary female and male surgical wards (Arthorn 1 and Panchamarachinee 1 respectively). The operating cost was calculated from the emergency OR (Phor.Por.Ror.5) as the most appendicitis patients were operated at there. The results therefore can not be represented for the patients who were admitted and operated in other areas. Apart from that, this research focused only on the appendicitis patients who were free from underlying disease and complication, therefore the results can not be represented for any problem cases. The results also can not specific for each case of appendicitis patient because the average DRG cost or average cost per patient of a given DRG are simply the summing up of departments' DRG cost per patient.

However, this study might be used as a guideline for similar studies for the patients who were admitted and operated in other areas or it can be used as a guideline for the other average DRG costs studies.

A regular and continuous study of DRG costs will provide the useful information for determining the average cost per DRG. Godeeris J. et al, stated that to gain the benefit from DRG result must be adapted according to changes in ecological factors, such as medical technology, and socio-economic factors [18] and Russell LB. Stated that DRG may be adjusted according to changes in conditions, treatments, and patterns of care [19].

Since King Chulalongkorn Memorial Hospital is a teaching hospital, each department has to be responsible for providing training and practice to health personnel, therefore the results of the study are supposed to contain the costs of the teaching procedures.

This study was performed by using the retrospective method and based on the historical records, thus some important data might be lost if the staffs did not record on them. To collect the data by using the prospective method is closer to the real cost than the retrospective method but it might take the time longer.

Because of the limited time, this study did not break down the material and intravenous fluid costs of the studied DRG from the RSC of each department. However they were already calculated in each unit cost of RSC of each department by the study

"Cost Analysis of Patients Services at King Chulalongkorn Memorial Hospital" and as appendectomy is a general operation that does not need to use materials and intravenous fluid in a great amount. Therefore this study assumed to use the average cost that already contain in the unit cost of RSC of each studied unit.

Anyway, to break down all relevant costs of each DRG should be performed by further DRG studies because the results will be closer to the real cost than this study. Therefore the administrators can gain the benefits more.