

The Effect of Consultations on the Cost of Pre-Anesthetic Assessment

Omer L. Erhan¹, Azize Bestas^{1,2*}, Sait F. Oner¹, Turkay Yucel¹, Sibel Ozcan¹, Hasan Arık¹

¹Department of Anesthesiology and Reanimation, Firat University School of Medicine, Elazığ, Turkey; ²Department of Anesthesiology and Reanimation, Firat University School of Medicine, Elazığ, Turkey.
Email: *abestas@firat.edu.tr

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ABSTRACT

Background: In our study, researching the distribution of the consultations other than anaesthesia in compliance with the disciplines and ages of the patients and its effect on the assessment cost has been aimed. **Methods:** Our study has been conducted during 8 months by the retrospective assessment of the records of 3844 cases on which an elective surgical procedure was planned in the anesthesiology polyclinic of Firat University Hospital. The records of patients have been obtained through examining their files from the hospital record system. **Results:** The total number of patients whose consultations have been demanded was 367 (9.5%) and the number of male/female was 192/175. The number of cases about which more than one consultation has been demanded was determined as 87 (2.2%). The number of cases on which a method change for the anaesthesia was applied was 21 (5.7%), and the number of cases whose surgery was cancelled was 3 (0.81%). Requested consultation for each patient, the consultations of cardiology, chest diseases and internal medicine bring an additional cost on the total sum respectively as 37.2 TL (28.61 \$), 29.8 TL (22.92 \$) and 19.9 TL (15.30 \$). **Conclusions:** We suggest that the cost analysis should be absolutely taken into consideration during the pre-anaesthetic assessment for the requirement of routine examinations.

Keywords: Pre-Anaesthetic Assessment; Consultations; Costs

1. Introduction

Pre-operative assessment is significant because of the facts that the planned-surgery may be cancelled or this assessment may prevent the cancellation of the surgery or the period of hospitalization may be shortened and moreover anaesthesia should be performed under the safe conditions. This assessment, by determining health problems which are not detected before, enables the revision of the anaesthetic and surgical approaches and the prevention of undesirable events during the preoperative and post-operative period. For this purpose, during the pre-operative period, many laboratory tests and examinations are conducted on patients [1]. The consultations other than anaesthesia compose some part of this assessment. These consultations are applied because accompanied diseases bring additional costs on the routine assessment.

In our study, researching the distribution of the consultations other than anaesthesia in compliance with the disciplines and age groups and its effect on the as-

essment cost has been aimed.

2. Materials and Methods

Our study has been conducted during 8 months by the retrospective assessment of the records of 3844 cases on which an elective surgical procedure was planned in the anesthesiology polyclinic of Firat University Hospital. The records of patients have been obtained through examining their files from the hospital record system. Pre-operative tests for the age group of under 15 years, complete blood count, fixing of blood group, blood glucose level, aspartate transaminase, alanine transaminase, urinalysis, activated partial thromboplastin time and prothrombin time have been accepted as routine costs. Electrocardiogram, for the patients more than 35 years old and postero-anterior chest X-ray and renal function tests for those who are more than 65 years old are added to these tests and the routine cost has been found. For each patient for whom the consultation has been demanded the name, surname, protocol, age (pediatric age <15 years,

*Corresponding author.

adult age 15 to 65 years and geriatric age >65 years), weight, gender, information about from which service of the hospital she/he comes, his/her planned-operation, the reason of the consultation demanded, additional tests demanded as a result of the consultation, and the changes on the anaesthesia technique have been recorded. It has been found that in compliance with the age groups and related disciplines (Cardiology, Chest Diseases, Internal Medicine), the cases for which consultation is demanded by considering pre-operative pathology bring an additional cost to the total sum of the consultation.

For the calculation of the costs, the prices fixed and applied for the year of study by the Precept of Budget Practice (PBP) of the Ministry of Finance have been taken into consideration. Based on the value of the time, the cost has been also fixed as USA dollar (\$) by considering 1.3 TL = 1\$ TL.

3. Results

When the findings of 3844 patients have been assessed, the total number of patients whose consultations have been demanded were recorded as 367 (9.5%) and the number of male/female was found as 192/175. When examined in compliance with the age groups, the consultation has been demanded for 8 patients (2.1%) who are under 15 years old, 228 patients (62.1%) who are between 15 to 65 years old and 131 patients (35.6%) who are more than 65 years old. The number of cases about which more than one consultation has been demanded was fixed as 87 (2.2%). The number of cases on which a method change for the anaesthesia was applied was 21 (5.7%), the number of cases whose surgery was cancelled was 3 (0.81%) and the number of cases which were diagnosed for the first time is 104.

The cost occurred as a result of the consultation has been recorded in compliance with the disciplines and age groups (**Table 1**). It has been determined as routine cost, additional cost and total cost in compliance with the age groups (**Table 2**). When assessed alone, requested consultation for each, patient the consultations of cardiology, chest diseases and internal medicine bring an additional cost on the total sum respectively as 37.2 TL (28.61 \$), 29.8 TL (22.92 \$) and 19.9 TL (15.30 \$).

The cost has been found as 62,54 TL (48.10 \$)/per patient for those the cardiology and chest diseases consultation were demanded 59,07 TL (45.43 \$)/per patient for those internal medicine and chest diseases consultation were demanded and 43.44 TL (33.41 \$)/per patient for those the cardiology and internal medicine consultation were demanded.

4. Discussion

During the pre-operative assessment, anamnesis, physical examination and the choice of examination should be in

Table 1. Units from which consultations have been demanded and the cost. TL: Turkish lira, \$: USA dollar.

	Cardiology	Chest Diseases	Internal Medicine
Consultation [n(%)]	154 (4.00)	45 (1.17)	294 (7.64)
Total Cost			
• TL	5298.10	1140.40	955.75
• \$	4075.46	877.23	735.19

Table 2. The routine and additional costs [Turkish lira (TL), USA dollar (\$) in compliance with the age groups.

Age (years)	Cost TL (USA \$)		
	Routine cost	Additional cost	Total cost
<15	26.34 (20.26)	18.2 (14.00)	44.54 (34.26)
15 to 65	29.34 (22.56)	29.60 (22.76)	58.94 (45.33)
>65	42.74 (32.87)	36.78 (28.29)	79.52 (61.16)

connection with the determination of ambiguous cases which have the potential to affect the pre-operative results [2]. Making the pre-operative assessment by individualizing it toward the patient, taking the anamnesis attentively and making a detailed physical examination may reduce the demand for consultation other than anaesthesia and thus cost. Unnecessary tests and scrutinies lead hospital service load and cost to increase [2]. Fischer *et al.* [3] determined that preventing unnecessary tests may reduce the cost by 55%.

It is known that making the pre-anesthetic assessment before the operation day prevents last minute cancellations and postponing the surgical operation [4]. Besides surgery costs related to postponing the case increases, using the operation room effectively is not possible as the surgery date can not be clarified. It is reported that a monetary loss of 1.500 USD per hour for cancellation of the surgery and 10 USD per minute for postponing the surgery occurs [5].

Ferrando *et al.* [6] have found the cost for pre-operative assessment cost as 6.10 € within the age group of <15 years old, 27.16 € within the age group of 15 - 65 years old, and 38.48 € within the age group of >65 years old. The results of this study are similar to ours in terms of the increase in cost. Gold *et al.* [7] claimed that abnormal findings are significantly high within those who are more than 60.

The results of our study are significant because of the fact that the pre-anaesthetic assessment has revealed different costs in compliance with the age groups. As a result of our assessment, 9.5% of our patients have been applied the consultations other than anaesthesia.

5. Conclusion

As one becomes older, the proportion of consultation and

the cost during the pre-anaesthetic assessment rise parallelly to the age. We suggest that the results of our study are taken into consideration within the framework of the health policies in terms of revealing different costs in compliance with the age groups during the preparation of package programmes while PBP is being prepared. Therefore, the cost analysis should be absolutely taken into consideration during the pre-anaesthetic assessment for the requirement of routine examinations.

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