

Cost Effectiveness in Cancer: A dream Will Come True

Noha A.Razik, C.P, Randa A.Fattah, C.P, Hosam Hamdy C.P, Raafat A.Malek FRCR, Hamdy A.Azim, MD
Kasr El-Eini Center of Clinical Oncology, Faculty of Medicine, Cairo University.

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Introduction

Today's cost-sensitive health care environment has created competitive and challenging workplace for clinicians and pharmacists. Competition for diminishing resources has necessitated that the appraisal of health care goods and services on the cost of health care[5]. A challenge for health care professional is to provide quality patient care with minimal resources. Paying for cancer treatment can be an issue in itself. This is especially true when cancer treatment continues for an extended time and involves chemotherapy[3]. Among cancer survivors younger than 65, one in five patients delay getting necessary cancer treatment or avoid it entirely just because of the cost, according to a 2006 study by the US centers for disease control and prevention[4].

Aim

Pharmacoeconomics evaluation of cost of chemotherapy drugs, considering the use of adjusted surface area instead of actual in calculation of the doses of anticancer drugs in order to:

- Maximize the number of patients treated.
- Maximize quality of treatment.
- Optimum Efficiency.
- Improve public & individual health.
- Achievement of Equity & Effectiveness.

Material and Method

The dose of chemotherapeutic drugs based on Body Weight, and the traditional formula of DuBoin and DuBoin which is the most widely accepted nomogram and simplified by Mosteller to: $BSA (m^2) = \sqrt{Ht. (cm) * Wt. (kg)/36003}$ [1]

Adjusted Body Weight= Ideal Body weight+ 0.4 (Actual Body Weight- Ideal Body Weight)[1]

Ideal Body Weight for females = 45 + 2.3kg for each inch

*60 inches =152 cm². [1][2]

When applying these equations on an average female breast cancer patient received FEC 100 regimen (Epirubicin 100mg/m², 5-FU 500 mg/m², Cyclophosphamide 500 mg/m²) who weights 90 kg & her height is 160 cm:

-Her Actual Surface Area= 2m², she will receive:

Epirubicin	200 mg
Cyclophosphamide	1000 mg
5-FU	1000 mg

- The Adjusted Surface Area on the other hand will be: 1.75 m², she will receive:

Epirubicin	175 mg
Cyclophosphamide	875 mg
5-FU	875 mg

Result

- A cycle of this regimen using the Actual Surface Area will cost 2530 Egyptian Pound and a course of 6 cycles will cost 15,180 Egyptian Pounds.
- While a cycle of this regimen using the Adjusted Surface Area will cost 2310 Egyptian Pound and a course of 6 cycles will cost 13,860 Egyptian Pounds.

A significant reduction in the cost of the chemotherapeutic course when using the Adjusted Surface Area by 1320 Egyptian Pounds, representing about 8.7% reduction.

Conclusion and Recommendation

Conducting a pharmacoeconomic research in public hospitals under supervision of ministry of health to provide a large scale research is required. By understanding the principles, methods, and applications of pharmacoeconomics, health care professionals will be prepared to make better, more-informed decisions regarding the use of pharmaceutical products and services.

References

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