Editorial

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Economic considerations in the choice between treatments[1,2]

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Economy has become an increasingly important part of health care planning and the life of professionals both in research and practice. Costs are an important factor when we make choices about which treatment to implement. In the article in this issue of the Journal by Roskott et al. (1), the authors give an excellent example of how this could be done on a very high academic level. Irreversible intestinal failure is a growing problem in many countries, and new solutions should be considered. Economy is an important part of these considerations. Should we continue to increase the number of patients receiving home parenteral nutrition and improve this technology, or should we start to work with transplantation as the preferred solution? From this article, transplantation seems like a good idea, when costs are in focus.

Of course, many limitations exist. Economy is in no way an exact science, and calculation of cost relies on many assumptions. In this case, the prices were sampled in The Netherlands, and they may well be different in other countries. One of the assumptions is that you can make a free choice. This means that you already have the technology for all of the treatments compared, and there is no need for the establishment of a new hospital or a new department or to call for specialists from abroad to start transplantation of the small intestine. For comparison, you also have to have a well-functioning system for home parenteral nutrition. The calculations are, accordingly, most relevant for rich countries in the West. These limitations are well known in many aspects of our research in nutrition. You always have to take local factors into account when extrapolating findings from other countries.

You could also claim that only the direct costs are included in the analysis, because the effects on employment, etc., are very difficult to estimate, as are other types of other costs such as side effects from immune depressive treatment or infusion of lipids. In the case of chronic intestinal failure, the direct costs are so high and employment rate so low that the influence of indirect costs is relatively less than in other types of calculations. Nevertheless, these kinds of economic estimates are bound to be part of the future for all of us, so we better start to get used to this way of thinking despite all of the weaknesses. In addition, we can also learn from the economist's way of thinking. Sensitivity analysis means that you change your own assumptions by $\pm 10\%$ and look at the consequences of the results. This method could add value to many investigations on the influence of a variety of nutritional factors on mortality and morbidity.

The method used by Roskott et al. (1) is a simulation model, which is not easy to understand. Advanced survival statistics are used—among those, Weibull distributions or functions—and these methods require considerable statistical expertise to handle and understand. Another advanced feature is that a simulated follow-up of 40 y is used. This means that the simulated follow-up period is much longer than the observed follow-up, and the model was replicated 500 times. These statistical methods are very advanced and very difficult for scientists in nutrition to understand, just as the analysis of energy expenditure would be for the economist.

We need these high-quality analyses to plan for the future, especially in evaluating nutritional treatments that carry high costs for society or the patient. We also need reliable models, and that involves a constant improvement in the economic models used in nutritional aspects parallel to what we have experienced for many years in epidemiology.

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REFERENCE

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