

ORIGINAL ARTICLE

Do medical oncologists and cancer patients care about treatment costs of systemic anticancer therapy?

Erdinc Nayir¹, Alper Ata², Ali Arican³

¹Department of Medical Oncology, Kahramanmaraş Necip Fazıl City Hospital, Kahramanmaraş; ²Department of Medical Oncology, Medicalpark Tarsus Hospital, Mersin; ³Department of Medical Oncology, Mersin University Faculty of Medicine, Mersin, Turkey

Summary

Purpose: The incidence, and thus the economic burden of cancer are increasing rapidly with prolongation of lifespan thanks to newly-developed anticancer drugs. Globally the number of newly diagnosed cases is expected to rise to 21.4 million by the year 2030. In this survey, our purpose was to investigate the level of awareness of oncologists and cancer patients concerning the treatment costs of systemic anticancer therapy.

Methods: To this end questionnaire forms were sent via e-mails to 123 medical oncologists which were responded by 119 (96.7%) of them.

Results: The responders (21%) stated that they had been attentive about the treatment costs or informed (9.5%) their patients about treatment costs. Half of the informed patients were desperately surprised when they heard the treatment costs. Half of the physicians thought that informing the patients had positive effects on patients compliance to

the treatment. Most (83.5%) of the physicians prescribed drugs not paid back by reimbursement, and 79.3% of them indicated that overall survival was more important in the selection of expensive drugs. Still 30.2% of them indicated that they hadn't known to perform cost-effectiveness analyses.

Conclusion: Creating awareness about costs of different anticancer treatment modalities in the minds of oncologists and their patients will be beneficial regarding rational use of such treatment modalities. Countries with rapidly growing health expenditures, like ours, should possess and implement country-specific criteria of cost-effectiveness in daily practice which hopefull will lead to more proper use of our medical resources.

Key words: anticancer drugs, cancer patient, cost-effectiveness, medical oncologist

Introduction

The incidence of cancer is increasing rapidly. Globally, 12.7 million newly-diagnosed cases were detected in 2008 which were expected to climb to 21.4 cases in 2030 [1]. Despite an increasing trend in the incidence of cancer, the disease can be diagnosed much more rapidly and accurately, owing to advances in healthcare technologies, and more effective treatments can be administered using innovative drugs. Many types of cancer which could not be treated or even diagnosed years ago, can be nowadays treated or their fatal outcomes can

be ameliorated with resultant increase in survival rates of cancer patients. From 1980 on the mean lifespan of cancer patients has been prolonged by 3 years [2]. Systemic anticancer drugs which increase in number day by day, play the most important role in the decline in cancer-related mortality rates [2]. However, these innovative drugs have started to incur an unbearable economic burden on the budgets of the nations. Raising awareness of the providers and receivers of cancer therapy is a must for optimization of the treatment costs.

Table 1. Survey questionnaire

1. Do you consider the cost differences between drug treatment options when offering them to your patients?
2. Do you want to be informed about the economic status of your patients before initiating treatment?
3. Do you think that the economic status of your patients affects the success of your treatment?
4. Is the economic status of your patients important for you before deciding treatment?
5. Do you inform your patients about the cost of treatment? How often?
6. What are the reactions of your patients that you have informed?
7. Do you think that there are any differences about the treatment compliance between the patients that you have informed and the others?
8. Do you recommend your patients to pay the medications that have positive publications but are not reimbursed by institutions ?
9. Which parameter is more important for you in the selection of expensive drugs?
10. Do you know about cost-effectiveness analysis in terms of statistics?
11. Have you taken part in a study on this subject?

In this survey, our aim was to investigate the level of awareness of oncologists and cancer patients in our country concerning the costs of systemic anticancer therapies.

Methods

Using Google drive tools, questionnaire forms consisting of 11 items were formulated (Table 1). The forms were sent via e-mails to 123 practising medical oncologists in Turkey between April 2011 and January 2012, and the responses were stored in a virtual platform. The results were analyzed using MS Windows World Excel program.

Results

These 123 questionnaire forms were responded by 119 (96.7%) physicians. Twenty five (21%)

participating physicians reported that they had been always attentive about the treatment costs while prescribing drug therapy (Figure 1, Question 1).

The majority of the physicians (N=104; 90.4%) indicated that they were concerned about the economic conditions of their patients before initiating treatment (Figure 1, Question 2), while only 32 (29%) of them stated that the economic conditions of the patients had always influenced treatment success (Figure 1, Question 3). However 15 (13%) physicians noted that they had considered economic conditions of their patients while selecting a treatment alternative (Figure 1, Question 4).

A small percentage of the physicians (N=11; 9.5%) reported that they had always informed their patients about the treatment expenditures

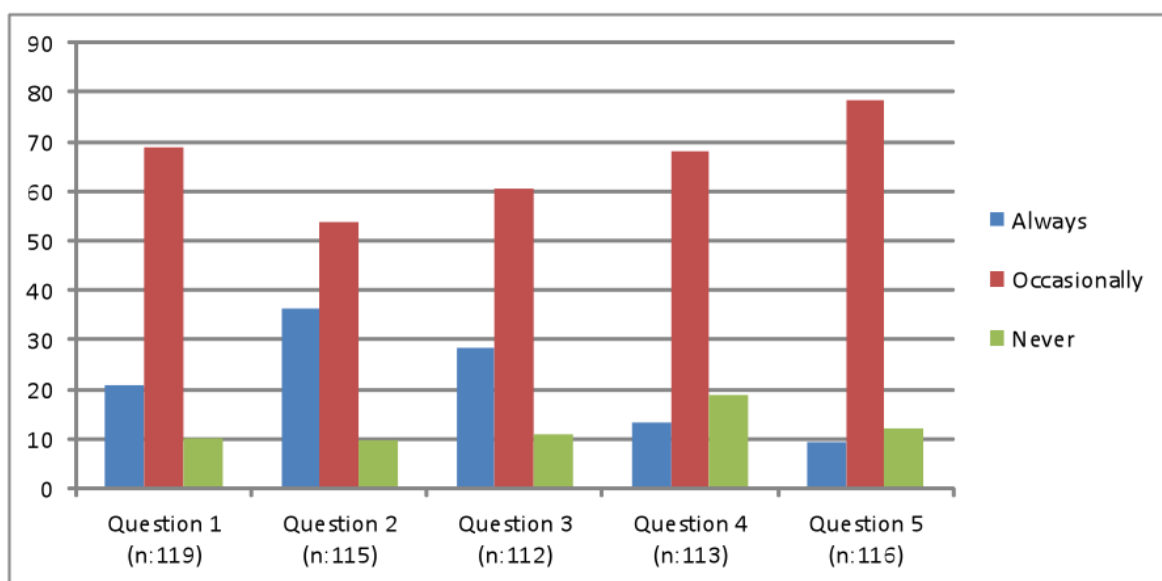


Figure 1. Graphic demonstration of the responses given to the first 5 survey questions. The questions are shown in Table 1.

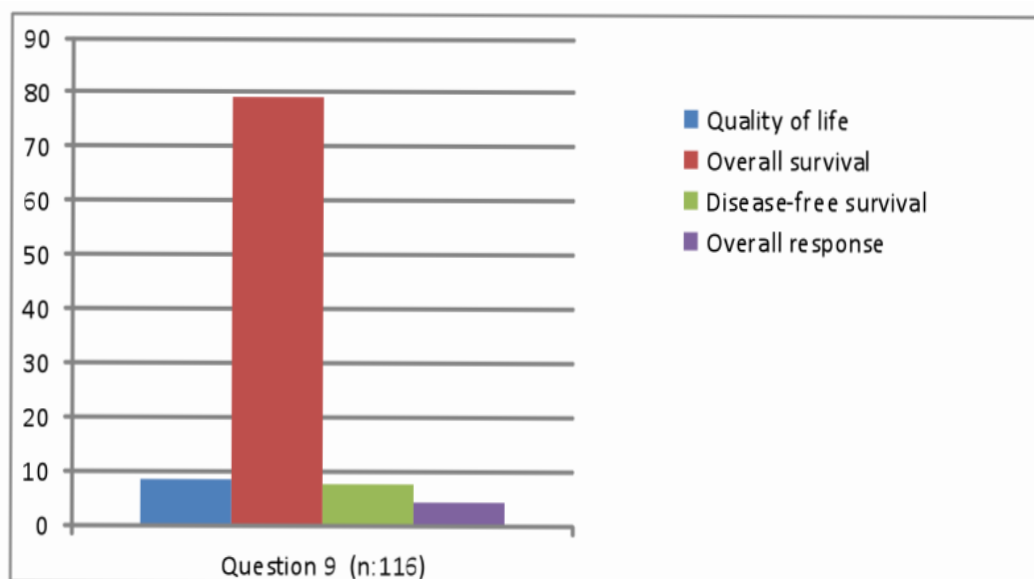


Figure 2. (Question 9): Which parameter is more important for you in the selection of expensive drugs?

(Figure 1, Question 5), but 50% of these patients were at a loss when they had learnt about treatment costs, while 20% of them did not care. Half of the physicians thought that informing the patients had positive effects on patients' compliance to the treatment.

Ninety seven (83.5%) physicians stated that they would prescribe drugs beneficial for their patients but not reimbursed under the managed care policy of the third parties, if the patients would consent to pay the expenses by themselves. According to the statements of the physicians, patients reacted favorably (41%) or unfavorably (39%) to this approach.

When inquired about the relatively more important criteria in the selection of costly drugs, overall survival rate and increase in the quality of life were indicated by 79.3% (N=92), and 8.6% (N=10) of the physicians, respectively (Figure 2).

The participating physicians were asked about their knowledge of calculating parameters of cost-effectiveness analyses, and 79 (66.4%) indicated that they knew how to calculate cost-effectiveness ratio, while 36 (30.2%) had no idea. Most (N=110; 92.4%) of the physicians stated that they hadn't participated in any survey about cost-effectiveness analysis, while 8 (6.7%) physicians had participated in at least one survey.

Discussion

Each year the number of cancer cases increases. However, the number of cancer-related deaths

decreases contrary to this increase in cancer cases. From 1980 on, the average lifespan of cancer patients has been prolonged by 3 years [2]. Advances in anticancer drug therapies have an important role in day by day decrease in mortality rates [2]. However, innovative treatments have incurred higher treatment expenditures on those parties involved. Especially, targeted therapies increase cancer-related healthcare expenses which impose an unbearable economic burden on managed care systems [3]. For instance, the cost of 4-cycle ipilimumab therapy which is approved by US Food and Drug Administration (FDA) for the treatment of metastatic malignant and melanoma is nearly US \$ 120.000 [4].

Increments in population and improvements in access to drug therapy impose a heavy burden on the budgets of the governments which provide fundamental health services. With this survey, we wanted to investigate the level of awareness of oncologists concerning the financial burden of systemic anticancer drugs which constrain national budgets.

Based on OECD (Organisation for Economic Co-operation and Development) data, only 6.1% of governmental expenditures for the year 2008 was allocated to healthcare services which is very low when compared with other OECD countries [5]. According to the data published by the Turkish Social Security Institution (SGK) in 2001 the total healthcare expenditure was 4.576 million Turkish Lira (TL) (nearly 2.000 million Euro), while it rised to 36.500 million TL (nearly 15.900 million Euro)

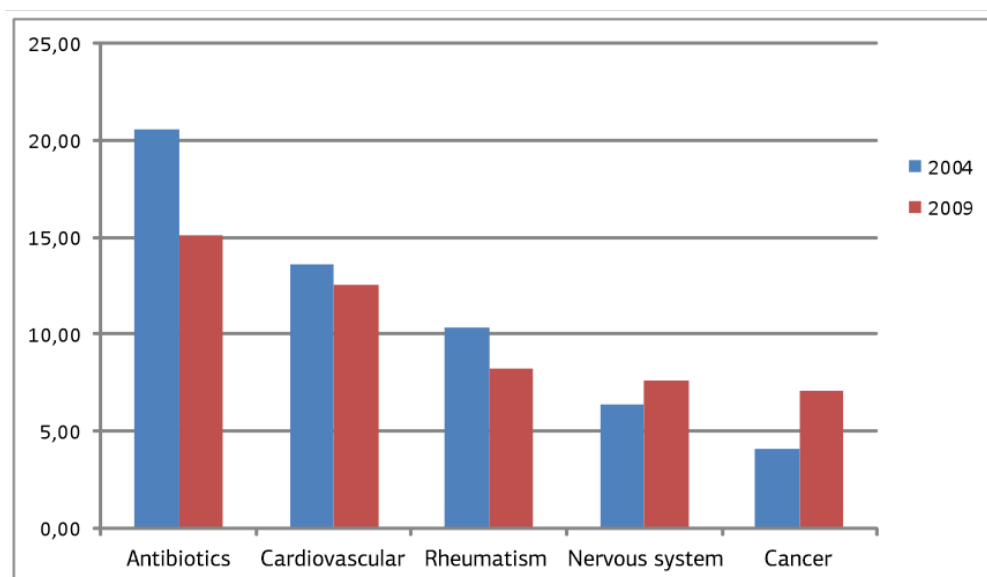


Figure 3. Drug consumption rates in Turkey according to treatment groups.

in 2011. Pharmaceutical costs comprise 37.7% of the rapidly increasing healthcare expenditures in our country [6]. Anticancer drugs are responsible for a critically important proportion of these expenditures. Indeed, anticancer drug consumption constituted only 4.1% of all drug expenses in 2004, while it climbed to 7.1% in 2009 [7] (Figure 3). As the rate of drug consumption increases, naturally the financial burden of the oncologic treatment will show an increasing trend. In 2002, 5.1 billion Euro were spent for anticancer drugs in Europe [8]. With an annual expenditure of 2.3 billion Euro for anticancer therapy in 2006, Turkey ranks sixth among European Union countries [9].

In our survey, we detected that the majority of physicians concerned about cost differences between drug therapies when making treatment decisions. This consideration of oncologists is beneficial in decreasing drug costs. Certainly, the first, and the single parameter in the drug selection is not drug costs, however preference for the cheaper one among two drugs with the same pharmacological effect is a proper strategy. Vergnenègre et al. performed a cost-effectiveness analysis among treatment protocols of non-small cell lung cancer, and stressed the importance of economic analysis. They also concluded that economic analyses provide additional information helpful for making rational treatment decisions [10]. This outcome is in parallel with the opinions of our study participants.

The majority of the survey participants cared for the economic condition of their patients. The thought that economic conditions have an impact

on treatment success, and survival rates is the rationale behind this approach. Coburn et al. investigated Rhode Island inventory of cancer cases, and detected differences between those with and without health insurance as for presentation and treatment of breast cancer. They concluded that patients without health insurance visited a hospital at a more advanced stage of their disease [11]. Zell et al. evaluated data of the patients with malignant invasive cutaneous melanoma, and detected worse overall survival rates in cases of lower socioeconomic status [12]. Smith et al. analyzed registered data in the files of cancer patients, and revealed that Hodgkin lymphoma patients with lower socioeconomic status were diagnosed at an advanced stage of their disease [13]. Opinions of our participating physicians are in agreement with the literature data.

Since in our country cancer drug expenditures are paid back by reimbursement institutions, many patients do not care for treatment costs. Therefore, they are not aware of the treatment costs. Only 9.5% of the physicians participating in the survey indicated that they had informed their patients on this issue. As is understood, physicians are not enthusiastic about informing their patients. Presumably, physicians assume that information provided about treatment costs does not change compliance to treatment very much.

Nearly half of the patients were surprised when informed by their physicians about pharmaceutical costs. It is very natural for the patients who are ignorant about higher costs of the drugs to surprise, when they are firstly informed.

We noticed that the great majority of the participating physicians recommended their patients to pay the cost of the non-reimbursed drugs out of their own pocket, if literature publications favor their use. A 41% of the patients reacted favorably to this suggestion. Naturally, the thought of receiving the best treatment, and regaining their health can enable the patients to disregard higher treatment costs.

The majority of physicians are attentive about overall survival rates, and increments in quality of life provided by the drug, when they prefer expensive drugs. Therefore, it could be concluded that physicians are more inclined to use the drug which provides overall survival advantage, and a marked improvement in the quality of life of their patients without regarding its cost.

Cost-effectiveness analyses are performed to define and compare costs, risks, and benefits of medical programs, services or treatment methods, and reveal the alternative which provides the best health outcome if the available resources are used. Therefore, especially under present day conditions, cost-effectiveness analyses are important [14,15]. We have learned that the majority of physicians participating in the survey were knowledgeable about cost-effectiveness analysis. However, it should be noted that the percentage of physicians ignorant about this issue was higher than expected. Besides, most of the participating physicians indicated that they had never participated in a relevant survey. The majority of physicians does not participate in cost-effectiveness analysis studies which will effect healthcare expenses adversely in

our country where consumption and expenditures of anticancer drugs increase rapidly. Not only government regulatory authorities, but also physicians who can manage treatment costs can significantly impact health economics. Certainly, not every physician can take part in cost-effectiveness analysis studies. For instance in UK, guidelines released by NICE (National Institute for Health and Clinical Excellence) have been used especially when choosing among new technologies, drugs, and devices etc [16]. Similar strategies have been adopted and implemented by relevant institutions in countries such as Germany, Australia, France, the Netherlands, Canada, and New Zealand. For maximal reimbursement, cost-benefit analysis (CBA) is a prerequisite in Germany [17]. In Australia, in order to include a drug in a reimbursement agenda, results from the economic assessment of the said drug that should be submitted to Pharmaceutical Benefits Advisory Committee. In Italy, cost-effectiveness ratio is used as a criterion for the reimbursement of newly developed drugs [18].

Conclusion

Raising awareness of the physicians dealing with the cancer treatment and their patients about costs of various treatment modalities will be beneficial in the rational utilization of these therapies. Cost-effectiveness criteria specific to the nations with rapidly increasing healthcare expenditures like ours, and their implementation in routine daily practice are important regarding more cost-effective use of resources.

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