

TRENDS IN ANTIDIABETIC DRUGS CONSUMPTION IN BULGARIA

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SUMMARY

This study is intended to evaluate the trends of antidiabetic drugs utilisation in Bulgaria for assesing the cost of the therapy. The comparative analysis between morbidity data and drug consumption data has been developed and the cost- minimisation analysis for the economic assesement has been used. The results show that for the last four years there are increasing data for national and regional antidiabetic drugs consumption, especially for human insulin and for North regions. They correspond with the increasing morbidity data from diabetes in the country. The most expensive therapy has been found for the insulin dependent patients.

KEY WORDS

drug utilisation, diabet morbidity, pharmacoconomics

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INTRODUCTION

Researching drug consumption is a key component of many efforts to evaluate the needs of specific pharmacological groups, for treatment practice. The antidiabetic drug utilisation is an indicator for the changes in the therapeutic practice because of its close dependence on the morbidity.

The necessity of a strict evaluation of the drugs needed in the therapeutic practice, specially those for the socially important diseases, such as diabetes mellitus has its significant place.

The main AIM of this study is to evaluate the contemporary trends in antidiabetic drug utilisation in Bulgaria.

With the view to achieve this aim we have analysed morbidity data in the country, consumption data for antidiabetic medicines and have made an economics assessment of the social expenses for the treatment of diabetic patients.

METHODOLOGY

We have based our research on two methodological approaches:

- time series analysis- for evaluation of the morbidity and consumption data in the country'
- cost minimisation analysis- for economics assessment of the social expenses for diabetic patient treatment.

RESULTS and DISCUSSION

The first step in our study was the analysis of morbidity data. We collected data on children and adult morbidity and separately on therapeutic practice (1, 2, 3).

Child's morbidity varies among 5.8 to 6.9 for each 100 000 children. They are only insulin dependant patients.

Ault morbidity data shows that during the period 1957- 1992, there exists increasing tendency, which has been constantly rising for the last 10 years (Fig.1). The difference in the regional morbidity exists from 2.64% to 0.99%, but as a whole the northern areas exhibit higher morbidity rate.

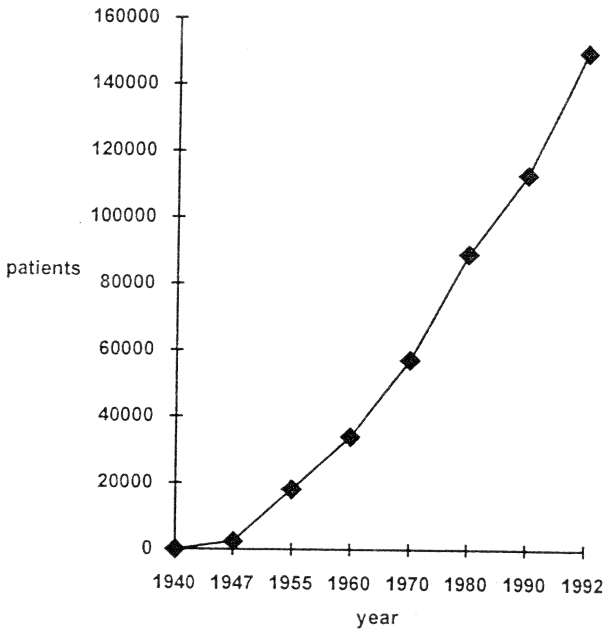


FIG. 1 Trends in the diabetic morbidity in Bulgaria during the period 1940- 1992

The distribution of the patients in relation with the type of diabetes therapy is as follows(Fig.2):

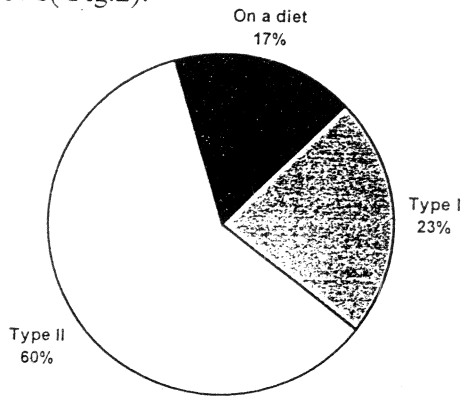


FIG.2 The distribution of the diabetic patients in accordance with the type of diabetes therapy

This proportion has a different value in regional areas, but as a whole the largest industrial areas, such as Sofia, Plovdiv, Varna, Burgas, Haskovo, Sliven have more insulin dependent patients.

The second step in our research was the data analysis of the consumption of insulin and peroral antidiabetic medicines (PAM) in the country. Seven areas were observed, which cover 40% of the total population during the period 1990- 1993. In accordance with the increasing morbidity there was a growing tendency in antidiabetic drug consumption as well.

The most of new popular insulin drug forms (IDF) are registered in our country, but not all of them are used in the therapeutic practice. The proportions between the type of purchased IDF are 72% for intermediate insulins, 26% for the fast acting insulins and 2% for Insulin mixes. These values have a very close correlation for the observed period (1990- 1992), but in 1993 the proportion signifies 58% for intermediates, 34% for fast acting insulins, 8% for Insulin mixes and 0.11% for long acting insulins. We observed that the most purchased are the intermediate insulins, but there is an increasing tendency of the consumption of Insulin mixes and fast acting forms.

A lot of IDF producers have been registered in Bulgaria, but only 8 pharmaceutical firms play an important role of which Novo Nordisk is the leader. 38% Bulgarian IDF and 62% imported products were purchased during the observed period. More animal IDF as compared to the human IDF were consumed, probably because of the lower price, however an increasing tendency of usage of human insulin therapy was observed. The most consumed IDF are as follows:

Fast acting: - Insulin NS fl 400 IU (Bulgaria)

- Insulin Actrapid fl 400 IU (Danmark)

- Insulin MC fl 400 IU (Danmark)

Intermediate: - Insulin Lentae MC 400 IU 10ml (Danmark)

- Insulin Lentae S "Pharmachim" fl 400 IU(Bulgaria)

- Insulin Lentae "Pharmachim" fl 400 IU (Bulgaria)

- Insulin Monotard MC fl 400 IU (Danmark)

There are 6 peroral antidiabetic medicines (PAM) registered in the country. Their trade names and producers are as follows:

Euclamid tabul 5 mg	Ciech Polfa (Poland)
Gilemal tabul 5 mg	Chinion (Hungary)
Glibenclamid "Pharmachim" 5 mg	NIHFI (Bulgaria)
Maninil tabul 5 mg	Arzneimittelwerk (BDR)
Diaprel tabul 80 mg	Servier labs (France)
Minidiab tabul 5 mg	FarmitaliaCarlo Erba (Italy)

During the observed period, the purchased trade names were the last four of the above. The proportional sale- values of these drugs are shown on Fig. 3.

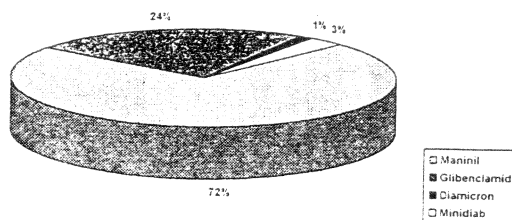


FIG.3 The proportional sales - values for peroral antidiabetic medicines

It is observed that the leader is Maninil, followed by Glibenclamid "Pharmachim", but they both are with the same generic name- Glibenclamid. The average PAM consumption has been calculated to be 2 tablets of 5mg daily.

The last steps of our study includes an economic assessment of

the cost of therapy of diabetics, on the basis of the product prices and physician prescribing habits (4).

The average prescribing dose for insulin dependent patient was defined to be 40 IU per day, who take this dose through all the year. Thus they consume 534 mln IU Insulin, which cost about 20 mln USD. Hence it arises as the most expensive antidiabetic therapy. For patients on PAM therapy the average daily dose has been defined to be 2 tablets of 5mg per day. Thus for the year- long therapy are needed 66 mln tablets, which cost about 1.5 mln USD:

CONCLUSION

The main results of our study can be summarised as follows:

- An increasing morbidity tendency of diabetes, specially in the last ten years. In 1993 year 147 000 patients have been registered (1.73% of the population). Most of the patients have been used peroral antidiabetic medicines (60%), followed by insulin dependant (23%).

- An increasing tendency of antidiabetic drug consumption in the country. The most purchased are intermediate insulin forms (70%), followed by the fast acting dosage forms (26%).

- The most expensive therapy has been established for patients who are insulin dependant, costing about 20 mln USD in 1993.

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