

Outpatient Utilization of Psychopharmaceuticals: Comparison between Croatia and Scandinavian Countries (2001–2003)

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ABSTRACT

The aim was to estimate outpatient consumption of psychotropic drugs in Croatia in correlation with Scandinavian countries. Data on drug utilization, from Zagreb Municipal Pharmacy, were used to calculate the number of defined daily doses (DDD) and DDD per 1000 inhabitants per day (DDD/TID) using Anatomical-Therapeutic-Chemical methodology (ATC) by WHO. Data of the Nordic Medico-Statistical Committee were used for Scandinavian countries. In Zagreb, total utilization of psychopharmaceuticals of 144.9 DDD/TID in 2001, 148.9 DDD/TID in 2002 and 141.9 DDD/TID in 2003. The anxiolytic/antidepressant ratio decreased in Zagreb by 35.19% (7.19 in 2001 and 4.66 in 2003), whereas in Scandinavian countries it showed a constant rate (0.7 in Finland, 0.4 in Denmark and Norway, and 0.3 in Sweden). The three-year utilization patterns show that Croatia has been ever more closely following Scandinavian countries although there have been a notable differences between Croatia and Scandinavian countries.

Key words: Psychopharmaceuticals, Utilization, Croatia (Zagreb), Scandinavian countries, ATC/DDD methodology

Introduction

The pharmaceutical system reform is part of the overall health care reform that has been under way in the Republic of Croatia. These changes should also include establishment of a national drug policy to cover, among other elements, uniform prescription guidelines for psychiatric drugs, and measures for their implementation and evaluation. According to Intercontinental Marketing Service (IMS) data, the leading groups of drugs utilized worldwide are cardiovascular drugs, immediately followed by central nervous system (CNS) drugs with a continuous annual rise of 11%¹. A similar pattern has been observed in Croatia, with a predominance of cardiovascular drugs followed by CNS drugs^{2–4}. There have been no studies assessing the justifiability of such a high utilization of these drugs. These data stimulated us to undertake the present study.

The objectives of the study were: 1) to determine the outpatient utilization of psychopharmaceuticals in Zagreb, the capital of Croatia; 2) to compare the outpatient utilization of psychiatric drugs and their prescription quality between Zagreb and Scandinavian countries us-

ing the World Health Organization Anatomical-Therapeutic-Chemical classification system (ATC)/Defined Daily Doses (DDD) methodology (ATC/DDD methodology); and 3) to propose appropriate interventions in Zagreb on the basis of the results obtained. Zagreb accounts for about 18% of the Croatian population and 43% of the Croatian health resources, thus quite reliably representing the trends in Croatia as a whole, where the prescribing quality is likely to be equal or lower. Using the ATC/DDD methodology, the data obtained can be compared with other settings and between different time periods. Scandinavian countries were chosen for their long tradition of drug utilization monitoring by use of ATC/DDD methodology and availability of the respective data on the Internet⁵.

Materials and Methods

Data on the outpatient utilization of psycholeptics and psychoanaleptics (ATC groups N05 and N06) in the

City of Zagreb were collected during 2001, 2002 and 2003. Data on the size and number of packages, and financial data based on wholesale price were obtained from state-owned pharmacies for each individual drug. These pharmacies accounted for 15% in 2002, and 16% in 2001 and 2003 of all pharmacies in the City of Zagreb. Pharmacies make an integral part of health care service and are subject to a number of statutory obligations. Up to 1991, only state-owned pharmacies existed in Croatia. When Croatia gained independence, new private pharmacies started to function. There are no differences between the state-owned and private pharmacies with regard to their status. All drugs were classified according to ATC system. Based on the data obtained, the number of DDD and DDD *per* 1000 inhabitants *per* day (DDD/1000/day) were calculated for all N05 and N06 drugs using ATC indexes with DDDs for 2001, 2002 and 2003⁶⁻⁸. The reasons for data collection exclusively from state-owned pharmacies have been previously explained⁹. On DDD/1000/day calculation, data from the latest 2001 census were used, according to which the population of the City of Zagreb was 770,058. Total outpatient utilization of ATC N05 and N06 prescription drugs, utilization distribution of these groups of drugs at secondary, tertiary and quaternary level, and consumption of individual drugs were analyzed. Data published by the Nordic Medico-Statistical Committee were employed on analyzing the respective drug utilization in Scandinavian countries⁵. In Norway and Finland, data were collected from wholesalers, and in Denmark and Sweden on the basis of prescriptions. Outpatient drug utilization for Finland was calculated by subtracting inpatient drug utilization from total drug utilization¹⁰, whereas the data on Norway include inpatient drug utilization as well. The Drug Utilization 90% (DU90%) method was used as a criterion of prescribing quality^{9,11}. In order to compare drug costs with other national reports, additional indicators of rational drug utilization were also determined, e.g., cost *per* DDD within DU90% segment (cost/DDD); cost/DDD for drugs beyond DU90% segment; and cost/DDD for all psychopharmaceuticals analyzed.

Results

Total utilization of psycholeptics and psychoanaleptics (N05 and N06) is presented in Table 1. Total utilization of psychopharmaceuticals was highest in Zagreb and lowest in Denmark. However, while in Scandinavian countries the utilization of these drugs was on a continuous increase from 2001 to 2003 (the increase being lowest in Sweden, then in Finland, Denmark and highest in Norway with 5.6%, 9.9%, 10.1% and 11.5%, respectively), in Zagreb the utilization of psychopharmaceuticals in 2003 decreased by 2.1% and 4.2% *vs.* 2001 and 2002, respectively. Table 1 shows a notable difference between Zagreb and Scandinavian countries in the utilization distribution of psycholeptics and psychoanaleptics. Whereas in Zagreb the utilization of psycholeptics was twofold their lowest consumption in Denmark, and by 23.6%

lower or 1.3-fold their highest consumption in Finland, the utilization of psychoanaleptics was 2.3 times lower than the lowest consumption in Finland but threefold lower than the highest consumption in Sweden.

(Table 1 Utilization of psycholeptics (N05) and psychoanaleptics (N06) in Zagreb and Scandinavian countries during the years 2001–2003 expressed in the number of DDD/TID – here)

The utilization distribution of psycholeptics from N05 group in Zagreb and Scandinavian countries is presented in Fig. 1. There were no substantial differences between Croatia (Zagreb) and Scandinavian countries, except Sweden, in the utilization of antipsychotics (N05A). However, in contrast to Scandinavian countries where the utilization of these drugs increased during the period of observation with the highest rise recorded in Denmark, from 10.6 DDD/TID in 2001 to 11.9 DDD/TID in 2003, followed by Norway from 9.2 to 9.9 DDD/TID, Finland from 12.52 to 13.01 DDD/TID, and lowest in Sweden from 8.5 to 8.7 DDD/TID), in Zagreb the consumption of these drugs decreased by 19.9%, i.e. from 15 DDD/TID in 2001 to 12 DDD/TID in 2003.

(Fig. 1 Distribution of utilization of antipsychotics (N05A), anxiolytics (N05B), and hypnotics and sedatives (N05C) from the group of psycholeptics (N05) in Zagreb and Scandinavian countries during the years 2001–2003, expressed as percentage (%) – here)

The utilization distribution of anxiolytics showed significant differences between Zagreb and Scandinavian countries. During the period of observation, the utilization of sedatives and hypnotics in Zagreb increased by 23%; with 14.75 DDD/TID in 2003 it was two times lower than that in Denmark (32.7 DDD/TID), where no changes were recorded during the observation period; 2.5 times lower than that in Norway, where it increased from 2001 by 7.9% (36.9 DDD/TID in 2003); 3.3 times lower than that in Sweden, where it increased by 1% in 2003 (49 DDD/TID); and 3.4 times lower than that in Finland, where it increased from 2001 by 7.6% (50.8 DDD/TID in 2003).

In the N06 group, antidepressants (N06A) accounted for more than 90% of utilization both in Zagreb and in Scandinavian countries. Results on antidepressant utilization are presented in Table 2. Total antidepressant consumption was 2 to 3 times lower in Zagreb than in Scandinavian countries.

(Table 2 Utilization of Non-selective monoamine reuptake inhibitors (N06AA), Selective serotonin reuptake inhibitors (N06AB), Monoamine oxidase A inhibitors (N06AG), and Other antidepressants (N06AX), and overall utilization of antidepressants (N06A) in Zagreb and Scandinavian countries during the years 2001–2003 expressed in the number of DDD/TID- here)

Outpatient drug utilization within and beyond DU90% segment in 2003 was compared between Zagreb (Table 3) and Finland (Table 4). Finland was chosen as the most suitable country for this comparison⁹. Ten drugs fell under DU90% segment in Zagreb and 24 in Finland. In

Zagreb, the cost for DU90% segment accounted for 54.1%, and the cost for the rest of 24 drugs for 45.9% of overall financial expenses. In Finland, the cost for DU90% segment accounted for 81.8%, and the cost for the rest of 44 drugs for 18.2% of overall financial expenses.

(Table 3 Psycholeptics and psychoanaleptics within Drug Utilization 90% (DU90%) segment expressed in the number of DDD/TID, and cost per DDD in EUR within and beyond DU90% segment in Zagreb in 2003 – here)

(Table 4 Psycholeptics and psychoanaleptics within Drug Utilization 90% (DU90%) segment expressed in the number of DDD/TID, and cost per DDD in EUR within and beyond DU90% segment in Finland in 2003 – here)

Discussion

The results obtained in the study point to differences in the psychopharmaceutical utilization pattern in primary health care between Zagreb and Scandinavian countries. The differences are partly consequential to different socioeconomic and health policy factors in the two settings. During the period of observation, the utilization of psycholeptics decreased in Zagreb by 6.7%, remained unchanged in Sweden and Denmark, and increased by 6.6% in Finland and by 6.8% in Norway. The utilization of psychoanaleptics increased in all settings, showing greatest rise in Zagreb (26.9%), followed by Denmark (21.5%), Norway (17%), Finland (16.3%) and Sweden (12%).

In the group of psycholeptics (N05), the utilization of antipsychotics (N05A) was on a decline in Zagreb but on a rise in Scandinavian countries (Fig.1). Typical antipsychotics contributed to their decline in Zagreb. Various recent recommendations and guidelines suggest that atypical antipsychotics should be preferred to typical antipsychotics because of the lower rate of side effects, thus prescribing of the former being on an increase in the majority of European countries¹². In Zagreb, the ratio of atypical to typical antipsychotics was 1:2 in 2001 and 1:1.3 in 2003, still being less favorable in comparison with Scan-

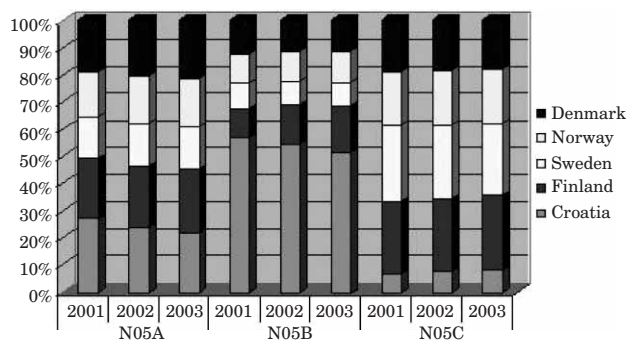


Fig. 1. Distribution of utilization of antipsychotics (N05A), anxiolytics (N05B), and hypnotics and sedatives (N05C) from the group of psycholeptics (N05) in Croatia (Zagreb) and Scandinavian countries during the years 2001–2003, expressed as percentage (%).

dinavian countries. In Finland, the ratio was 1:1.6 in 2001 and 1:1.1 in 2003. In Norway, the ratio was 1:1.2 in 2001 and 1.2:1 in 2003. In Denmark, the ratio was in favor of atypical antipsychotics in 2001 (1.2:1) to show further improvement in 2003 (1.78:1).

In Zagreb, anxiolytics (N05B) accounted for 90% and 80% of overall psycholeptic utilization in 2001 and 2003, respectively, whereas in Scandinavian countries they accounted for 22% (Sweden) through 34% (Finland) during the period of observation. The distribution of sedative and hypnotic (N05C) utilization showed an inverse pattern.

In Zagreb, benzodiazepines showed highest share in the overall psycholeptic (N05) utilization. Ten benzodiazepines have been registered in Croatia, nine of them psycholeptics and one antiepileptic (clonazepam). In 2003, the share of benzodiazepines in the overall utilization of psycholeptics in Zagreb amounted to 86.8%, although the consumption of benzodiazepines showed a 6.25% decline during the period of observation (from 112 DDD/TID in 2001 to 105 DDD/TID in 2003). Anxiolytics accounted for 92.8%, and hypnotics for 7.2% of this share. In Scandinavian countries, the share of benzodiazepines in the over-

TABLE 1
UTILIZATION OF PSYCHOLEPTICS (N05) AND PSYCHOANALEPTICS (N06) IN ZAGREB AND SCANDINAVIAN COUNTRIES 2001–2003 EXPRESSED IN DDD/TID

ATC code	Group	Year	DDD/TID				
			Zagreb	Finland	Sweden	Norway	Denmark
N05	Psycholeptics	2001	129.8	86.4	74.0	62.6	65.6
		2002	129.3	89.5	74.2	65.5	65.9
		2003	121.1	92.5	74.0	67.2	66.1
N06	Psychoanaleptics	2001	15.2	40.0	57.3	46.3	42.4
		2002	18.8	43.7	63.3	50.5	47.8
		2003	20.8	47.8	65.1	55.8	54.0
	Total	2001	144.9	126.4	131.3	108.9	108.0
		2002	148.1	133.2	137.5	116.0	113.7
		2003	141.9	140.3	139.1	123.0	120.1

TABLE 2

UTILIZATION OF NON-SELECTIVE MONOAMINE REUPTAKE INHIBITORS (N06AA), SELECTIVE SEROTONIN REUPTAKE INHIBITORS (N06AB), MONOAMINE OXIDASE A INHIBITORS (N06AG), AND OTHER ANTIDEPRESSANTS (N06AX), AND OVERALL UTILIZATION OF ANTIDEPRESSANTS (N06A) IN ZAGREB AND SCANDINAVIAN COUNTRIES 2001–2003 EXPRESSED IN DDD/TID

ATC code	Group	Year	DDD/TID				
			Zagreb	Finland	Sweden	Norway	Denmark
N06AA	Non-selective monoamine reuptake inhibitors	2001	5.2	4.0	4.0	4.2	4.6
		2002	4.6	3.9	4.0	4.1	4.4
		2003	3.5	4.0	3.9	3.9	4.3
N06AB	Selective serotonin reuptake inhibitors	2001	9.1	24.8	42.2	32.0	28.8
		2002	13.4	26.9	46.4	33.5	32.3
		2003	16.5	29.5	46.9	36.3	36.8
N06AG	Monoamine oxidase A inhibitors	2001	0.0	1.1	0.3	0.5	0.1
		2002	0.0	0.9	0.3	0.4	0.1
		2003	0.1	0.8	0.3	0.4	0.1
N06AX	Other antidepressants	2001	0.1	6.3	9.2	7.5	7.8
		2002	0.1	7.5	10.6	9.6	9.5
		2003	0.1	8.3	11.5	11.1	10.9
Total		2001	15.2	40.0	57.3	46.3	42.4
		2002	18.8	43.7	63.3	50.5	47.8
		2003	20.8	47.8	65.1	55.8	54.0

TABLE 3

PSYCHOLEPTICS AND PSYCHOANALEPTICS WITHIN DRUG UTILIZATION 90% (DU90%) SEGMENT EXPRESSED IN DDD/TID, AND COST PER DDD IN EUR WITHIN AND BEYOND DU90% SEGMENT IN ZAGREB IN 2003

No.	Drug name	DDD	Share (%)	DDD/TID	Cost/DDD
1	Diazepam	1,642,456	25.7	36.5	0.1
2	Oxazepam	1,142,343	17.9	25.4	0.2
3	Alprazolam	772,065	12.1	17.2	0.2
4	Lorazepam	503,700	7.9	11.2	0.1
5	Zolpidem	365,140	5.7	8.1	0.2
6	Bromazepam	359,208	5.6	8.0	0.2
7	Nitrazepam	264,180	4.1	5.9	0.1
8	Fluoxetine	260,708	4.1	5.8	0.6
9	Paroxetine	240,060	3.8	5.3	0.6
10	Sertraline	187,824	2.9	4.2	0.6
DU90% 1–10		5,737,684	89.9	127.6	0.2
Others 11–35		643,798.8	10.1	14.3	1.5
Total 1–35		6,381,482.8	100.0	141.9	0.3

all utilization of psycholeptics was 57.3% in Finland, 51.4% in Denmark, 43.2% in Norway, and 33.8% in Sweden. In Zagreb, the consumption of benzodiazepines in 2003 was twofold that in Finland (53 DDD/TID), threefold that in Denmark (34 DDD/TID), 3.6-fold that in Norway (29 DDD/TID), and 4.7-fold that in Sweden (22 DDD/TID). In Scandinavian countries, benzodiazepine related drugs (N05CF) accounted for a considerably higher share in overall psycholeptic utilization, ranging from 28.6% in Denmark through 34% in Finland, whereas in Zagreb they accounted for only 6.7% in 2003, yet showing

a fourfold increase from 2001 (from 2.3 to 8.11 DDD/TID). Zolpidem is the only drug from this group registered in Croatia. As new generation hypnotics, benzodiazepine related drugs, are currently recommended to use in therapy for insomnia, the consumption of these drugs is also expected to rise in Croatia characterized by excessive and uneconomical utilization of benzodiazepines, which has no true ground in therapeutic guidelines^{13–16}. Such a high consumption of these drugs exceeds their consumption in any other European country and can only be compared with that in neighboring coun-

TABLE 4
 PSYCHOLEPTICS AND PSYCHOANALEPTICS WITHIN DRUG UTILIZATION 90% (DU90%) SEGMENT EXPRESSED IN DDD/TID,
 AND COST *PER* DDD IN EUR WITHIN AND BEYOND DU90% SEGMENT IN FINLAND IN 2003

No.	Drug name	DDD	Share (%)	DDD/TID	Cost/DDD
1	Zopiclone	48,893,502	18.4	25.9	0.1
2	Temazepam	32,179,714	12.1	17.0	0.1
3	Citalopram	27,774,383	10.5	14.7	0.6
4	Diazepam	16,241,113	6.1	8.6	0.1
5	Alprazolam	13,915,552	5.2	7.4	0.2
6	Oxazepam	13,348,342	5.0	7.1	0.2
7	Fluoxetine	11,306,386	4.3	6.0	0.4
8	Zolpidem	9,585,849	3.6	5.1	0.2
9	Mirtazapine	8,148,917	3.1	4.3	1.2
10	Sertraline	7,373,730	2.8	3.9	0.9
11	Paroxetine	6,919,962	2.6	3.7	0.9
12	Lorazepam	5,407,402	2.0	2.9	0.2
13	Venlafaxine	5,218,332	2.0	2.8	1.3
14	Olanzapin	4,915,820	1.9	2.6	4.8
15	Amitriptyline	4,254,075	1.6	2.3	0.2
16	Donepezil	3,327,632	1.3	1.8	3.3
17	Nitrazepam	3,062,934	1.2	1.6	0.1
18	Risperidon	2,873,864	1.1	1.5	4.6
19	Amitriptyline+psyc	2,722,608	1.0	1.4	0.3
20	Clozapine	2,684,794	1.0	1.4	2.2
21	Chlordiazepoxide	2,004,142	0.8	1.1	0.1
22	Hydroxyzine	1,947,421	0.7	1.0	0.5
23	Doxepin	1,928,514	0.7	1.0	0.3
24	Perphenazine	1,890,700	0.7	1.0	0.5
DU90% 1–24		237,925,688	89.7	125.8	0.5
Others 25–69		27,396,243	10.3	14.5	1.0
Total 1–69		265,321,931	100.0	140.3	0.6

tries, which also lack clear guidelines and strict control mechanisms of drug prescribing^{17,18}.

During the period of observation, the utilization of antidepressants (N06A) increased in all study settings, however, the highest rise was recorded in Zagreb (26.9%), followed by Denmark (21.5%), Norway (17.7%), Finland (16.3%), and lowest rise in Sweden (12%), yet the latter reporting highest antidepressant consumption, i.e. threefold that in Zagreb. In the group of antidepressants, Selective serotonin reuptake inhibitors (SSRI) accounted for the highest share of utilization and showed a rising pattern in all study settings. In Zagreb, the use of SSRI in 2003 increased almost twofold from 2001, accounting for the highest share in overall antidepressant utilization (80.3%). In Sweden, the respective share was 72%, with lowest rise in consumption (10%). In Denmark, the share of SSRI in overall utilization of antidepressants was 68.1%, with a rise of 21.7%. In Norway, the share of SSRI in overall utilization of antidepressants was 65.1%, with a rise of 11.9%. Finland reported the lowest share of SSRI in overall antidepressant consumption (61.7%),

with a 15.9% rise from 2001 to 2003. In Zagreb, Non-selective monoamine reuptake inhibitors (N06AA) were the second most commonly prescribed drugs from the group of antidepressants. These drugs showed a comparable utilization in Zagreb and Scandinavian countries, however, with a significantly greater tendency to decline in Zagreb (32.7%) than in Scandinavian countries with a decline by 7.1% in Norway, 6.5% in Denmark, and no such changes in their utilization during the period of observation reported from Finland and Sweden. Although showing a considerable decline in utilization, this group accounted for 16.8% of overall utilization of antidepressants in Zagreb, whereas in Scandinavian countries this share ranged from 6.0% in Sweden through 8.4% in Finland. In Scandinavian countries Other antidepressants (N06AX) ranked second in the group of antidepressants, whereas in Zagreb the consumption of these drugs was very low and rather uniform throughout the three study years (0.1 DDD/TID). In Scandinavian countries, the utilization of these drugs showed an increase of 32.4% in Norway, 28.4% in Denmark, 24.1% in Finland, and 20%

in Sweden, where the highest consumption was recorded. While in Zagreb the drugs from this group including serotonin and norepinephrine reuptake inhibitors (SNRI) accounted for only 0.5% of overall antidepressant utilization, in Scandinavian countries their share ranged from 17.4% in Finland through 20.2% in Denmark. Although recent studies suggest that drugs from this group may be a cost-effective option compared with SSRI and tricyclic antidepressants (TCA) when used as a first-line drug for depression in primary care¹⁹, only tianeptin and reboxetine were registered in Croatia until 2003, whereas venlafaxin was only registered in 2004.

The ratio of anxiolytics to antidepressants has also been used as an indicator of psychopharmaceutical prescribing quality in a particular setting, whereby antidepressants as etiological therapy should prevail^{20,21}. This ratio revealed significant differences between Zagreb and Scandinavian countries. In Zagreb, it was 7.19 in 2001 and 4.66 in 2003. While this index points to a 35.2% decline over three years of observation, these data question the appropriateness of current pharmacological treatments, particularly for major depression, in which undertreatment is coupled with the high use of nonspecific medications such as anxiolytics, primarily benzodiazepines, in Zagreb²³. In Scandinavian countries, this ratio was generally constant during the study period, i.e. 0.7 in Finland, 0.4 in Denmark and Norway, and 0.3 in Sweden. In Croatia, there is an obvious tendency to follow the western trends in drug prescribing, as demonstrated by the increased consumption of antidepressants and reduced use of anxiolytics, however, greater efforts need to be invested.

The price of a drug is an important factor determining its inclusion in the CIHI List of Drugs, as illustrated by comparison of drug consumption within DU90% segment between Zagreb and Finland. In Finland, twice as many drugs from these groups have been registered, and 2.5 as many drugs fall in DU90% segment as in Zagreb. In Zagreb, six of the ten drugs in DU90% segment are benzodiazepines, inexpensive drugs, one is a benzodiazepine related drug, zolpidem, and three are antidepressants from the SSRI group. In Zagreb, the cost/DDD ratio within DU90% segment is 7.5 times lower than the same ratio for drugs beyond DU90% segment. In Finland, however, the drugs falling within DU90% segment yield a two times lower cost/DDD ratio than those beyond DU90% segment, whereby drugs like mirtazapine, a SNRI, which has only recently been registered in Croatia, then venlafaxine, the antipsychotics olanzapine, risperidone and clozapine with usage restrictions charged to the national health insurance in Croatia, and donepezil that is not on the CIHI List of Drugs, fall within DU90% segment. The fact that GNP *per capita* is 9,441.38 EUR in Croatia and 33,674.2 EUR in Finland certainly

reflects in the policy of the national health insurance companies. In Croatia, the inclusion of drugs in the CIHI List of Drugs depends on the limited national budget. Yet, comprehensive pharmacoeconomic analyses justifying the inclusion of particular drugs in the CIHI List of Drugs have not been performed, the primary criteria being the price of the drug and its efficacy. In addition, clear prescription guidelines for these drugs are still lacking, while monitoring of drug consumption has only recently been regulated at the national level. In such a situation, a number of factors play quite important role, e.g., aggressive marketing of pharmaceutical industries, which has not been properly regulated either; escalating demands from patients for medication prescriptions; and developments reported in medical literature²⁴.

Conclusions

In spite of the limitations of this study related to our sampling used to determine drug utilization, limitations of the ATC/DDD methodology, and use of DU90% segment providing only a rough insight in the prescribing quality, our rough data on the utilization of psychotropic drugs in Zagreb indicated an excessive utilization of benzodiazepines in Croatia as a whole, although it is likely to be lower at the national level. The consumption of these drugs is too high and uneconomic, obviously calling for appropriate education of both physicians and patients to reduce it to an acceptable level.

The three-year utilization patterns observed for the groups of psycholeptics and of psychoanaleptics, along with changes in the consumption of drugs, primarily antidepressants, show that Croatia has been ever more closely following Scandinavian countries in the field although there have been a notable difference between Zagreb and Scandinavian countries yet. The utilization of antipsychotics were decreased in Zagreb, in contrast to Scandinavian countries where the utilization of these drugs increased. In Zagreb, the ratio of atypical to typical antipsychotics was less favorable in comparison to Scandinavian countries. The ratio of anxiolytic to antidepressants revealed significant differences between Zagreb and Scandinavian countries.

The price of a drug is an important factor determining its inclusion in the CIHI List of Drugs. The general insight in the quality of psychopharmaceutical prescribing points to a lower level in Zagreb as compared with Finland. Therefore, first of all, clear guidelines for prescribing psychopharmaceuticals should be designed; pharmacoeconomic analysis should be introduced on including drugs on the CIHI List of Drugs; and problems should be more precisely defined and priorities identified through monitoring of drug utilization at the national level.

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IZVANBOLNIČKA POTROŠNJA PSIHOFARMAKA: USPOREDBA IZMEĐU HRVATSKE I SKANDINAVSKIH ZEMALJA OD 2001.–2003.

SAŽETAK

Cilj rada je bio procijeniti izvanbolničku potrošnju psihofarmaka u Hrvatskoj, u korelaciji sa potrošnjom u skandinavskim zemljama. Na temelju podataka Gradske ljekarne Zagreb o broju pakovanja, izračunat je broj definiranih dnevnih doza (DDD) i broj definiranih dnevnih doza na 1000 stanovnika na dan (DDD/1000/dan), koristeći Anatomsko-Terapijsko-Kemijsku klasifikaciju lijekova (ATK). Podaci o potrošnji lijekova u skandinavskim zemljama dobiveni su od Skandinavskog medicinsko-statističkog vijeća. U Zagrebu, ukupna potrošnja psihofarmaka se kretala od 144.9 DDD/1000/dan u 2001. do 148.9 DDD/1000/dan u 2002. i 141,9 DDD/1000/dan u 2003. godini. Odnos anksiolitici/anti-depresivi se u Hrvatskoj smanjio za 35,19% (7,19 u 2001. i 4,66 u 2003. godini), dok je ovaj odnos u skandinavskim zemljama ostao gotovo nepromijenjen (0,7 u Finskoj, 0,4 u Danskoj i Norveškoj, 0,3 u Švedskoj). Rezultati ovog istraživanja pokazuju da postoje značajne razlike u propisivanju psihofarmaka između Hrvatske i skandinavskih zemalja, iako Hrvatska u promatrane tri godine počinje slijediti skandinavske zemlje.