

PSYCHIATRISTS' PSYCHOTROPIC DRUG PRESCRIPTION PREFERENCES FOR THEMSELVES OR THEIR FAMILY MEMBERS

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SUMMARY

Background: Psychiatrists' preference for certain medications is not only determined by their efficacy and side effect profile but may also depend on the psychiatrists' beliefs about specific therapeutic effects based on their own observation and experience. We aimed to evaluate which antipsychotic or antidepressant drugs psychiatrists would prefer for themselves, their partners and children in case of a mental illness.

Subjects and methods: The study was conducted among psychiatrists in Serbia. The sample consisted of 90 psychiatrists who were asked to complete the questionnaire about their drug selection in hypothetical situations of becoming ill with schizophrenia or depression or these conditions occurring in their partners and children.

Results: In case of schizophrenia, risperidone was the first choice made by most psychiatrists for themselves, their partners or children, followed by clozapine, haloperidol and olanzapine. In case of depression, SSRIs and SNRIs were generally favored, with sertraline and escitalopram being the preferred medications for psychiatrists, partners and their children. With regards to depression, 82.3% of participants would opt for an antidepressant as monotherapy or in combination, but 13.3% would opt for anxiolytic monotherapy. The preferred doses were slightly lower than the recommended ones, especially for antipsychotic agents.

Conclusions: Most psychiatrists would take or administer atypical antipsychotics or SSRIs as the first choice for themselves, their partners or children. These preferences are mostly in accordance with current treatment guidelines, but there is still room to narrow the gap between guideline recommendations and psychiatrists' medication choices in personally meaningful situations.

Key words: antipsychotics – antidepressants – SSRI - anxiolytics – psychiatrists - drug

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INTRODUCTION

Modern medical practice is characterized by expanding diagnostic and therapeutic possibilities that have made the selection of the best strategy for many clinical problems very complex. The physician is often obliged to choose the best of several alternative options which have different advantages and disadvantages in a process of evaluation and comparison that is not dependent on medical facts alone but also on the situational context or subjective preferences of physician and patient. This process is often referred to as medical decision making and has recently been widely studied with the aim to explain why a physician makes a certain decision at a certain moment for a certain patient (Patel et al. 2002, Linden 2006).

In the context of medical decision making we may ask an important question: Why do physicians prefer a certain drug over another one? In terms of psychiatry the question becomes: Why do psychiatrists choose to prescribe a certain psychotropic drug over an alternative one? Surprisingly, there is, in our knowledge, no enough data related to psychiatrists' decision making on drug selection. At the same time, there are many studies on therapeutic efficacy and side effect profile of psychotropic drugs. However, little is known on how psychiatrists actually choose among different substances. The most common factors influencing drug selection often discussed in the literature are the

avoidance of specific side effects, the presence of specific clinical symptoms, the presence of comorbid psychiatric disorders and prior treatment history, including prior positive or failed response to a drug (Zimmerman et al. 2004). Some physician-related factors also play an important role (Hamann et al. 2005).

The aim of the study is to determine prescription preferences of psychiatrists in Serbia in hypothetical scenarios if they or their family member (partner or child) become ill of schizophrenia or depression. We have assumed that in such a situation psychiatrist would express, to the greatest extent, their preferred drug choices based not only on scientific data and guidelines, but also on personal experience and subjective feelings. Specific reasons for preferences were not the focus of this study. We also aimed to evaluate first-line treatment choices for the psychiatrists themselves and for their family members.

SUBJECTS AND METHODS

The survey was done in November 2010 among physicians who attended Educational Symposium of the Psychiatric Clinic, Clinical Center of Serbia, in Belgrade. The sample consisted of 90 participants selected in an unbiased manner. All of the participants took part in the study voluntarily and independently after they had been explained the purpose of the study.

Assessment of the participants was done by self-administered questionnaire. The questionnaire comprised of three sections: (1) socio-demographic data: including age, gender, marital/relationship status and parenthood; (2) professional data: including educational status, years of whole medical work experience, years of work experience in psychiatry, place of work, number of patients per month, and number of patients with schizophrenia and depression during the last five-year period; and (3) the main section, regarding prescription preferences' information.

First part of third section was related to experience with psychotropic medication and the psychiatrists were asked to select from a list which psychotropic medication (antipsychotic and antidepressant) they had experience with. The list consisted of all antipsychotic and antidepressant drugs that were in the market in Serbia at that time.

In the second part, the psychiatrists were asked to specify which antipsychotic they would take in a hypothetical situation if they become ill of schizophrenia (which included, at least, ideas of persecution and auditory hallucinations). Also, the psychiatrists were asked to indicate which medication they would opt for if the ill person is their partner or own child. Similarly, psychiatrists were asked which antidepressant would be their choice in a hypothetical situation if they or their partner and their child had an episode of depression (described as following: depressed mood,

loss of interest or pleasure, early morning awakening, anxiety, inability to concentrate during two-week period). Additionally, psychiatrists were asked whether they would prefer any other type of medication (i.e., anxiolytics, antipsychotics, mood stabilizers, or combination) as their first-choice drug for treatment of depressive disorder listed above. In all scenarios the psychiatrists were requested to write down the dose for each particular drug they would prescribe to themselves or their family members. The data for the partners and child drug preferences were calculated and presented only for respondents who were married and in de-facto relationship and respondents who reported that they have children.

Collected data were statistically analyzed using the methods of descriptive statistics (mean, standard deviation, range).

RESULTS

Socio-demographic and other characteristics of the participants shows that the most of the participants were female (61 (67.8%) female vs. 29 (32.2%) male) and the mean age of the sample was 46.11±10.08 years (ranging from 26 to 69 years). Regarding marital/partner status, 74 (82.2%) were married or in a partner relationship, 10 (11.1%) of participants were single and 6 (6.7%) were divorced or widowed. The most of respondents of the sample (60 (66.7%) participants) reported that they have children.

Table 1. List of antipsychotic drugs and psychiatrists' prescription preferences in scenarios that they or their partner or their child become ill of schizophrenia with mean dose and range of preferred drugs

	Experienced with	Whole sample choice of medication for			Mean doses in mg (range)	
		Themselves (N=90)	Partner (N=77)	Child (N=60)		
Risperidone	88 (97.8%)	46 (51.1%)	43 (55.8%)	26 (43.3%)		
Clozapine	88 (97.8%)	11 (12.2%)	8 (10.3%)	7 (11.6%)		
Haloperidol	88 (97.8%)	9 (10.0%)	9 (11.6%)	5 (8.3%)		
Olanzapine	61 (67.8%)	9 (10.0%)	8 (10.3%)	7 (11.6%)		
Quetiapine	22 (24.4%)	7 (7.8%)	5 (6.4%)	3 (5%)		
Fluphenazine	75 (83.3%)	4 (4.4%)	3 (3.8%)	2 (3.3%)		
Zuclopenthixol	25 (27.8%)	1 (1.1%)	-	-		
Thioridazine	62 (68.9%)	1 (1.1%)	-	-		
Levomepromazine	71 (78.9%)	-	-	1 (1.6%)		
No choice	-	2 (2.9%)	1 (1.1%)	9 (15.0%)		
		Psychiatrists' choice of medication for				
		Themselves (N=68)	Partner (N=60)	Child (N=54)	Psychiatrist trainees' choice of medication for themselves (N=22)	
Risperidone		30 (44.1%)	28 (46.6%)	23 (42.5%)	16 (72.7%)	2.8 (0.5-6)
Clozapine		9 (13.2%)	7 (11.6%)	7 (12.9%)	2 (9.1%)	181.8 (75-300)
Haloperidol		8 (11.7%)	8 (13.3%)	5 (9.2%)	2 (9.1%)	5 (1-8)
Olanzapine		7 (10.2%)	8 (13.3%)	7 (12.9%)	1 (4.5%)	11.7 (10-20)
Quetiapine		6 (8.8%)	5 (8.3%)	3 (5.5%)	1 (4.5%)	350 (150-600)
Fluphenazine		4 (5.8%)	3 (5%)	2 (3.7%)	-	3 (2-5)
Zuclopenthixol		1 (1.4%)	-	-	-	20
Thioridazine		1 (1.4%)	-	-	-	75
Levomepromazine		-	-	1 (1.8%)	-	-
No choice		2 (2.9%)	1 (1.6%)	6 (11.1%)	-	-

Related to medical experience, the results show that the majority of respondents - 68 (75.6%) were fully trained specialists (psychiatrists or neuropsychiatrists) and the rest of the participants - 22 (24.4%) were psychiatric trainees. The mean length of overall medical work experience was 19.41±10.46 years (ranging from 2 to 40 years) and the mean length of work experience in psychiatry was 14.76±9.39 years (ranging from 1 to 38 years). There were 66 (73.3%) hospital-based doctors and the other 24 (26.7%) work in ambulatory setting. Most psychiatrists - 78 (86.7%) have more than 20 patients per month. During the period of last five years, 52 (57.8%) participants have more than 50 patients with schizophrenia and 77 (85.6%) have more than 50 patients with depression in their clinical practice.

The results from the questionnaire related to experience with listed antipsychotic and antidepressive drugs show that the majority of the psychiatrist have experience with the most of the drugs, but, also there are

lot of them who indicate that they do not have experience with newer psychotropic agents, mostly with second generation of antipsychotics (Table 1 and 2).

In the case they would become ill of schizophrenia, majority of participants reported that they would take atypical antipsychotic (Table 1). The same option they would choose for their partners or their children if they became ill (Table 1). Specifically, in the case that they became ill of schizophrenia, risperidone was the first choice for the most psychiatrists, followed by clozapine, haloperidol and olanzapine as first line treatment for themselves. The similar preferences were for their partners or children (Table 1). All the preferences were similar, regardless the respondent was a specialist in psychiatry or a psychiatric trainee (Table 1). Also, table 1 presents average dose and range of doses of preferred drugs, with pediatric doses not being taken into account. It seems that the preferred doses are slightly lower than recommended doses for the treatment of schizophrenia.

Table 2. List of antidepressant drugs and psychiatrists' prescription preferences in scenarios that they or their partner or their child become ill of depression with mean dose and range of preferred drugs

	Experienced with	Whole sample choice of medication		
		Themselves (N=90)	Partner (N=74)	Child (N=60)
Sertraline	86 (95.6%)	23 (25.6%)	Sertraline	86 (95.6%)
Escitalopram	69 (76.7%)	22 (24.4%)	Escitalopram	69 (76.7%)
Paroxetine	73 (81.1%)	13 (14.4%)	Paroxetine	73 (81.1%)
Fluoxetine	87 (96.7%)	9 (10.0%)	Fluoxetine	87 (96.7%)
Mirtazapine	71 (78.9%)	8 (8.9%)	Mirtazapine	71 (78.9%)
Venlafaxine	71 (78.9%)	6 (6.7%)	Venlafaxine	71 (78.9%)
Maprotiline	81 (90.0%)	4 (4.4%)	Maprotiline	81 (90.0%)
Amitriptyline	73 (81.1%)	2 (2.2%)	Amitriptyline	73 (81.1%)
Citalopram	67 (74.4%)	1 (1.1%)	Citalopram	67 (74.4%)
Clomipramine	67 (74.4%)	1 (1.1%)	Clomipramine	67 (74.4%)
Mianserin	81 (90.0%)	1 (1.1%)	Mianserin	81 (90.0%)
Tianeptine	24 (26.7%)	-	Tianeptine	24 (26.7%)
Trazodone	65 (72.2%)	-	Trazodone	65 (72.2%)
No choice	-	-	No choice	-

	Psychiatrists' choice of medication for			Psychiatrist trainees' choice of medication for themselves (N=22)	Mean doses in mg (range)
	Themselves (N=68)	Partner (N=60)	Child (N=54)		
Sertraline	19 (27.9%)	21 (35%)	15 (27.7%)	19 (27.9%)	21 (35%)
Escitalopram	16 (23.5%)	14 (23.3%)	8 (14.8%)	16 (23.5%)	14 (23.3%)
Paroxetine	10 (14.7%)	6 (10%)	5 (9.2%)	10 (14.7%)	6 (10%)
Fluoxetine	6 (8.8%)	5 (8.3%)	5 (9.2%)	6 (8.8%)	5 (8.3%)
Mirtazapine	5 (7.3%)	4 (6.6%)	3 (5.5%)	5 (7.3%)	4 (6.6%)
Venlafaxine	5 (7.3%)	4 (6.6%)	3 (5.5%)	5 (7.3%)	4 (6.6%)
Maprotiline	4 (5.8%)	2 (3.3%)	2 (3.7%)	4 (5.8%)	2 (3.3%)
Amitriptyline	1 (1.4%)	1 (1.6%)	1 (1.8%)	1 (1.4%)	1 (1.6%)
Citalopram	1 (1.4%)	1 (1.6%)	1 (1.8%)	1 (1.4%)	1 (1.6%)
Clomipramine	1 (1.4%)	1 (1.6%)	-	1 (1.4%)	1 (1.6%)
Mianserin	-	-	-	-	-
Tianeptine	-	-	-	-	-
Trazodone	-	1 (1.6%)	1 (1.8%)	-	1 (1.6%)
No choice	-	-	10 (18.5%)	-	-

In case of depressive episode, the result shows that antidepressants should not be the only drugs of participants' choice. Namely, in the case they become ill from depression, antidepressants would be a choice for 82.3% of participants, as monotherapy (68.9%) or in combination (13.3%), particularly, in combination with anxiolytics (10.0%), mood stabilizers (1.1%) or the both group (2.2%). Other psychiatrists have opted for monotherapy with anxiolytics (13.3%), one for the monotherapy with mood stabilizer and 3 (3.3%) for combination of anxiolytics and mood stabilizers. If the affected person was a partner, choice would be similar with a slightly higher percentage of prescribed antidepressants (87.8%) mostly as monotherapy (75.6%). But, still 12.2% of participants would opt for anxiolytic monotherapy or combination of anxiolytics and mood stabilizers. In the third hypothetical scenario 21.6% of respondents didn't make any choice for their child's treatment. Those who made a choice preferred monotherapy with antidepressants (45.6%), monotherapy with anxiolytics (15.6%), combination of antidepressant and anxiolytic (4.4%) or monotherapy with mood stabilizer (3.3%) as first-line treatment.

Related to antidepressant agents, in the case that they became clinically depressed, SSRIs and SNRIs were generally favored for the most psychiatrists for themselves and their partners, and for half of participants for their children (Table 2). Most favored antidepressants were sertraline and escitalopram for themselves, partners and children (Table 2). All of these results are almost the same for the psychiatric specialists and psychiatric trainees with an only exception that escitalopram was the most favored drug for psychiatric trainees if they were depressed (Table 2).

DISCUSSION

In this study we have undertaken the national survey of psychiatrists' preferred drug choices, in the hypothetical scenario if they or their family members become mentally ill. As it is well known, treatment choices are based not only on scientific data and expert guidelines (Loga & Loga-Zec 2010), but also on variety of factors including personal clinical experience, peer opinion, marketing influence etc. We believe that the data in this type of study offers a unique perspective on prescription practice among psychiatrists in Serbia at this particular moment.

The results of the questionnaire related to experience with listed antipsychotic and antidepressive drugs show that the majority of the psychiatrist have experience with the most of the drugs (Table 1 and 2). But, the results also show that there are lots of them who indicate that they do not have experience with newer psychotropic agents, mostly with second generation of antipsychotics. The reason for this finding could be in specifics of the accessibility of the antidepressant and, especially, antipsychotic medications the Serbia. The most of the antidepressants and all first generation of

antipsychotics (+ risperidon) are to a large extent financially supported by the government and health authorities in Serbia. Therefore, those drugs are more accessible for the most of the patients. But second generations of atipsychotics (except risperidon) at the time the survey was performed, was not (or only partly) subsidized and they were hardly accessible for most of the patients. We speculate that this factor could have an influence on experience, familiarity and knowledge of medication, which could, later, influence on the choice of medication.

The majority of psychiatrists in our sample reported that they would take an atypical antipsychotic in case of schizophrenia. This is reasonable considering that many comparative studies of atypical versus conventional antipsychotics in patients with first-episode psychosis demonstrate reduced extrapyramidal side effects and equal or slightly superior efficacy for the atypical antipsychotics (Sanger et al. 1999, Malla et al. 2001). The first second-generation antipsychotic to be licensed in Serbia, risperidone, was the preferred antipsychotic for about half of participants. Other atypicals commonly preferred were clozapine, olanzapine and quetiapine. In two studies similar to ours (Steinert 2003, Taylor & Brown 2007) olanzapine and quetiapine, as well as risperidone, were at the top of psychiatrists' preferences with different ranking among top three, which may reflect the presence of these medications on the market rather than their therapeutic properties.

It may be to some extent surprising that clozapine was the selected drug for about ten percent of psychiatrists in our sample. Clozapine is generally considered to be the most effective antipsychotic drug and it is recommended for those patients with schizophrenia who failed to improve with a different atypical antipsychotic (Mc Evoy et al. 2006). In national guidelines (Jasovic-Gasic & Damjanovic 2008), clozapine is also recommended in situations when patient does not respond to other antipsychotics. This result can be interpreted in a view that good efficacy of clozapine influence psychiatrists' decision in greater extent than side effects, including potentially fatal agranulocytosis. Moreover, there are calls from many psychiatrists worldwide to lift restrictions on the use of this medication and that due to its efficacy many also consider it suitable as first-line treatment for schizophrenia (Lieberman 1996; Green et al. 1995) and this accord well with the findings of this survey. However, regarding mean doses of the antipsychotic agents, there is a tendency of assessed psychiatrists to use doses that are lower than those recommended for the treatment of patients. This tendency is present in preferences for prescribing of all antipsychotics and it is, almost, the usual way of prescribing the antipsychotic drugs in Serbia (Maric et al. 2000).

Among the group of antidepressants, it is clear that selective serotonin reuptake inhibitors are the most preferred medications. Large majority of all participants would choose one of the five SSRIs regardless of the

offered scenarios related to themselves, partner or child. Such high frequency of selection of this group of medicaments may be explained by its efficacy and favorable profile of adverse effect repeatedly proven. Many findings demonstrate that SSRIs have comparable efficacy to TCAs and more importantly better tolerability than TCAs, including higher safety in overdose, and are therefore an appropriate treatment strategy for depression (Anderson 1998, Montgomery 2001). The most favorite drugs were sertraline and escitalopram, while citalopram was the least frequent choice among SSRIs. Interestingly, in a survey of Scottish psychiatrists who had been put in a similar hypothetical situation as in our study and asked which drug they would prefer, citalopram was the preferred antidepressant (Taylor & Brown 2007). The reason for this Serbian specific is related to the fact that the citalopram was the latest antidepressant drug that was placed on the market, very few months before survey was done.

A number of psychiatrists in our sample would rather choose some other new antidepressant agents, like mirtazapine or venlafaxine. Mirtazapine is at least as effective as tricyclic antidepressants and demonstrates a significantly earlier onset of action than the SSRIs that can influence clinicians' decision (Benkert et al. 2002). On the other hand, venlafaxine, drug that combines serotonergic and noradrenergic mechanisms of action, seems to have a modest efficacy advantage compared to other antidepressants particularly SSRIs (Smith et al. 2002, Papakostas et al. 2007) that may affect psychiatrists' choice.

In contrast to antipsychotics, there was no tendency toward prescribing lower doses of antidepressants. Average doses for the most prescribed antidepressants were within the recommended doses for acute treatment of depression (Paunovic 2004), with the exception of TCAs and maprotiline doses, which were slightly lower. Although the number of psychiatrists who opted for these drugs was too small to allow some general conclusions, it is possible that the doctors feel more comfortable when prescribing SSRIs and new agents compared to TCAs, which reflected on the dosage.

Regarding the hypothetical situation if their child became mentally disordered, significant number of psychiatrists who have children didn't make any drug choice at all. It may be interpreted in different ways, including the fact that many participants didn't have enough experience in child psychiatry or eventually find it unpleasant to put themselves in a situation when their own child were mentally ill. However, the drug choices made by other participants suggest that there is no significant difference in drug preferences for adults and children.

In the further part of the study related to antidepressant drugs, we have evaluated treatment preferences for depressive symptoms in order to assess whether the physicians would prefer any other type of drugs or combination of drugs as a treatment option in

scenario that they or their family members suffer from depression. The results show that most psychiatrists would prescribe an antidepressant, but some of them would opt for a combination of drugs, most commonly combination of antidepressant and benzodiazepine. However, about one in ten participants would choose monotherapy with benzodiazepine. Many studies (Davidson 2010) suggest that benzodiazepines play a very limited role in the treatment of depression. Benzodiazepines appear to improve treatment outcomes only when an anxiety disorder co-occurs with depression or for depression characterized by anxious features (Dunlop & Davis 2008). However, at this moment of evidence-based medicine, monotherapy with benzodiazepines is unacceptable, including monotherapy with alprazolam that has been found to have some antidepressant properties.

There are some limitations to this work. Firstly, there are limitations associated with our sample. Even if we have opinions from across a range of ages, with a balance of gender and career grade, it is possible that our results do not represent all Serbian psychiatrists, although it reflects about 10% of Serbian psychiatric population. Unfortunately, we could not obtain information on the demographic characteristics of psychiatrists in Serbia so we could not make a more accurate comment on how representative of Serbian psychiatrists our sample was. Secondly, the diagnostic criteria for schizophrenia and depression described in the questionnaire may have not been precise enough leaving an extra space for psychiatrists to supplement hypothetical clinical presentations with additional symptoms, which may have been reflected in the drug choice. And finally, the results demonstrate the prescription preferences at this particular moment and strongly depend on currently available drugs on our market.

CONCLUSION

We have undertaken a national survey of psychiatrists' prescription preferences in scenario if they or their partner or their child became mentally ill. For schizophrenia, atypical antipsychotics were generally favored with risperidone having received most votes, as for depression the SSRIs was preferred. In the case of depressive disorder, monotherapy with an antidepressant would be the most common choice but not the only one. The fact that a significant number of doctors would opt for monotherapy with benzodiazepines may initiate further research of this issue incongruent with evidence-based medicine practice. Finally, the type of selected drug and slightly lower preferred doses than those recommended for treatment of acute patients, may lead us to conclude that doctors would rather tolerate less efficacy than emerging side effects in case they or their family members became mentally ill.

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