

COMPARISON OF DEPRESSION TREATMENT AMONG DIFFERENT AGE GROUPS IN PRIMARY CARE SETTING

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SUMMARY

Background: The aim of this study was to explore the association between age and care of patients with depression in primary care setting. A comparison was made among the groups of elderly patients, middle aged patients and younger patients with diagnosis of depressive episode (F32).

Subjects and Methods: Patients (17.290) from ten GP offices in the city of Zagreb formed the representative sample for this study according to the estimated depression prevalence in Europe of 5%. A group of 231 (60%) patients with diagnosis Depressive episode (F32), out of 383 patients with Depression diagnosis according to ICD-10, were reviewed and extracted from GPs' standardized medical files. They were divided in three age groups: <45 years (n=58), 45-65 years (n=97) and >65 years (n=76). Data were tracked longitudinally and obtained retrospectively for one-year period from 1st January to 31th December 2009. Pharmacotherapy was classified according to the Anatomical Therapeutic Chemical (ATC) classification index.

Results: The youngest and the oldest age group mainly used only one drug in their therapy (47% vs- 64%), but middle age group almost equally used one or two drugs (42 vs 45%). About 50% of all patients used SSRIs. Benzodiazepines were used most frequently in middle and in the oldest age group (71% vs 60%). The most frequent combinations of antidepressants in the youngest age group were SSRIs and combination of SSRIs and benzodiazepines; in middle age group it was combination of SSRIs and benzodiazepines and benzodiazepines; and in the oldest benzodiazepines, and SSRIs. Benzodiazepines were used mainly discontinuously in oppose to significant continuous usage in middle age group (P 0,043). In the oldest age group, depression diagnose was mostly given by GP and the most frequent therapy was combination of pharmacotherapy and GP's support. Unaided clinical assessment of depression outcome by GP did not differ significantly between age groups although some differences existed.

Conclusion: Number and sort of antidepressants as well as sort of physician: GP or psychiatrist differed between age groups of depressed patients. Further investigation of specific depression treatment compared with outcome measures should give answer whether those differences are justified.

Key words: pharmacotherapy – depression - age groups

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INTRODUCTION

Depressive disorders are common, chronic and expensive and thus have become a great public health problem. The World Health Organization has ranked depression on the 4th place of causes of diseases worldwide, and researches are showing that until 2020. depression will, together with myocardial infarction, be the main cause of disability (WHO Health Report 2006). There are still many controversies regarding depression diagnosis and treatment in different age groups. First controversy is whether older age itself is a negative prognostic factor (Licht-Strunk et al. 2007) or this is mainly attributable to multiple medical, physical and psychosocial factors whose occurrence exponentially increases with age (Bird and Parslow 2002). Some authors connect later life depression with poor prognosis and recover rate of only 35% of older depressed patients within one year (Licht-Strunk et al. 2007) but others point out that even very old people can respond to antidepressants or psychotherapy and, with adequate treatment, rate of recovery and relapse for many older people is the same as in younger cohorts

(Bird & Parslow 2002). The treatment modalities used in the treatment of elderly patients with depression are similar to those in younger patients and include psychotherapy, pharmacotherapy, and/or electroconvulsive therapy (ECT) (Alexopoulos 2005). Literature strongly recommends psychological therapies especially for elderly depressed patients for many reasons. Main reason is elderly group's vulnerability to adverse effects and high rates of medical problems and medication use. Older adults often have better treatment compliance, lower dropout rates, and more positive responses to psychotherapy than younger patients (Birrer & Vemuri 2004).

According to guidelines, SSRIs are the first line of antidepressants and older depressed patients take them most frequent. Elderly patients use more frequently older tricyclic antidepressants, mainly because of positive experiences in previous depression episodes, as well as benzodiazepines than younger depressed patients. Main role of health care for the elderly has supportive GP (Alexopoulos et al. 2001). Literature also warns for more frequent antidepressants prescription by GPs to older patients (Kisely et al. 2000).

Differences also exist in depression recognition between GPs and psychiatrist. GPs use a chronic disease model to diagnose depression which is associated with increased familiarity with the patient more than the clinical case model widely used by psychiatrists. Unaided GPs' clinical diagnosis is recognized as more appropriate and valuable instrument in the evaluation of depression in routine primary health care with good positive predictive value (Klinkman et al. 1997).

The aim of this study was to explore the association between age and care of patients with depression in primary care settings. A comparison was made between elderly patients, middle aged and younger age group with diagnosis of depressive episode (F32), regarding treatment and care they received. We also analyzed the distribution of drugs for antidepressant treatment, as well as continuity and modification of pharmacotherapy among them. Depression outcome was assessed by GPs unaided clinical diagnoses and compared among age groups.

SUBJECTS AND METHODS

Subjects

With an assumed prevalence of depression of around 5%, according to the average depression prevalence in Europe (Paykel et al. 2005), a representative sample for the City of Zagreb of 17 000 examinees, i.e. 10 family medicine practices, was obtained by using the nomogram for determining sample size. The sample could be considered representative for primary health care as well as for the population in the City of Zagreb because Croatian population coverage with primary health care was 96% of population, according to Croatian National Institute for Public Health (Croatian Health Service Yearbook, 2007). The patients included were older than 21 years.

A total of 383 depressed examinees were extracted from the computerized medical information system generated database of a general medicine practice, among which 231 with diagnosis Depressive episode (F32). They were divided in three age groups: <45 years (n=58) (the youngest age group), 45-65 years (n=97) (the middle aged) and >65 years (n=76) (the oldest age group, elderly).

Methods

Comprehensive demographic, clinical, and utilization data were available from the computerized medical information system generated database of a general medicine practice for 17 000 examinees, i.e. 10 family medicine practices, considered to be the representative sample for the City of Zagreb.

We reviewed and extracted medical records for 231 patients with diagnosis Depressive episode (F32) out of 383 patients with depression diagnosis classified according The International Statistical Classification of

Diseases and Related Health Problems 10th Revision (ICD-10) (Croatian Institute for Public Health 1994).

Data were tracked longitudinally and obtained retrospectively for a one-year period from January 1 to December 31, 2009.

A questionnaire that was designed to estimate the care delivered to depressed patients included questions about methods of treating depression, number and type of drugs for antidepressant treatment, as well as drug continuity and switching. Another important question was if the GP or the psychiatrist provided patient care.

Drugs for antidepressant treatment were classified according to the Anatomical Therapeutic Chemical (ATC) classification index (ATC classification index, 2007):

- Non-selective monoamine reuptake inhibitors (NMAO);
- Selective serotonin reuptake inhibitors (SSRI);
- Monoamine oxidase A inhibitors (MAO);
- Other antidepressants (OA);
- Benzodiazepine derivatives (BDN);
- Other psychopharmacs (OP).

As outcome measure of depression treatment was used GPs unaided clinical assessment of depressed patients as: nondepressed with therapy, nondepressed without therapy and depressed with therapy.

GPs were also asked to estimate effectiveness of different sort of depression treatment for certain age groups (psychotherapy, pharmacotherapy, combination of psychotherapy and pharmacotherapy, spontaneously remission).

Statistical analysis

The data was processed by parameters of descriptive statistics: qualitative variables by absolute and relative frequencies. Differences in qualitative data were tested by the chi-square test. The level of significance was set at $P < 0.05$.

Statistical analysis was performed by the Statistical Package for the Social Sciences, version 9.0 (SPSS Inc., Chicago, IL, USA).

RESULTS

Even 15% of the youngest depressed patients were without any therapy vs. 10% of depressed patients in the middle aged group and 9% of depressed patients in the oldest group. About half (51%) of depressed patients used one antidepressant drug. Most of them (64%) were from the oldest group, followed by the youngest group (47%) and the middle aged group of depressed patients (42%). The middle aged group had more patients with two antidepressant drugs (45%) than with one drug (42%). Depressed patients frequency decreased with a number of medications (Figure 1.).

The most frequent combination of drugs for antidepressant treatment for all patients with diagnosis Depressive episode (F32) was combination of SSRIs and benzodiazepines (70) followed by benzodiazepines (56) and then SSRIs (47). The same distribution was for middle aged group of depressed patients.

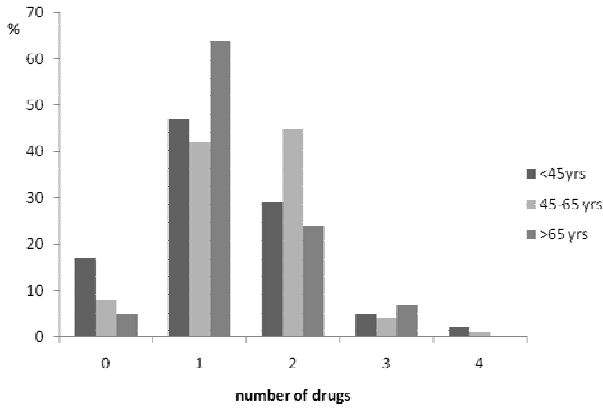


Figure 1. Distribution according to number of drugs for antidepressant treatment used by patients with diagnosis Depressive episode (F32) (n=231) in different age groups: <45 yrs. (n=58), 45-65 yrs d. (n=97) and >65 yrs. (n=76)

The most frequent combination of drugs for antidepressant treatment for the youngest age group <45 yrs were equally SSRIs and combination of SSRIs and benzodiazepines (16), followed by benzodiazepines (8). The most frequent combination of drugs for antidepressant treatment for the oldest age group was almost equally benzodiazepines (23) and SSRIs (21) followed by combination of SSRIs and benzodiazepines (16).

Frequency of particular six other combinations (benzodiazepines and other antidepressants, benzodiazepines and other psychopharmacs, SSRIs and other antidepressants, SSRI and other psychopharmacs, NIMAO and SSRIs, NIMAO and benzodiazepines) was very low so they were presented as one group (Figure 2.).

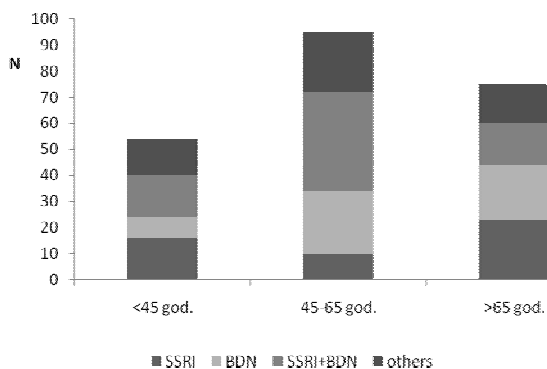


Figure 2. Distribution of the most frequent combinations of drugs for antidepressant treatment used by patients with diagnosis Depressive episode (F32) (n_{combinations}=225), in different age groups: <45 yrs. (n_{combinations}=54), 45-65 yrs. (n_{combinations}=95), >65 yrs. (n_{combinations}=76)

About 50% of all patients used SSRI. Benzodiazepines were used most frequently in middle and in the oldest age group (71% vs 60%).

SSRIs were used mainly continuously with no significant difference between age groups (P=0.886). Benzodiazepines were used mainly discontinuously. In the middle aged group and in the oldest group, benzodiazepines were used significantly more frequently continuously than in the youngest group (P=0.043) (Table 1.)

Table 1. Comparison among different ways of using SSRI and benzodiazepines by patients with diagnosis Depressive episode (F32) (n=231) in different age groups: <45 yrs. (n=58), 45-65 yrs d. (n=97) and >65 yrs. (n=76)

	<45yrs	45-65 yrs	<65yrs	P*
	n	n	n	
SSRI				
continuously	3	6	4	
discontinuously	31	46	34	0.886
Benzodiazepines				
discontinuously	21	42	31	
continuously	7	27	15	0.043

*χ² test

In general, combination of pharmacotherapy and GP's support was being the most commonly used treatment in 31% of all depressed patients, followed by combination of psychotherapy and antidepressant medication in 26% of depressed patients.

Depressed patients in the oldest age group were receiving the most frequent combination of pharmacotherapy and GP's support (41%), the youngest depressed patients were receiving the most frequent combination of psychotherapy and antidepressant medication (29%). Patients from middle aged group were receiving equally combination of pharmacotherapy and GP's support and combination of pharmacotherapy and GP's support.

Pharmacotherapy alone was being mostly reserved for older patients (22%).

About quarter of the youngest and middle aged depressed patients were receiving GPs support/ psychotherapy by psychiatrist in comparison with only 10% of the oldest depressed patients. The greatest number of youngest patients (15% vs. 10% of middle aged vs. 8% of the oldest patients) were without therapy (Table 2.).

The most frequent changes happened in the oldest age group. The most frequently changed group of antidepressant drugs were SSRIs, with half of all changes (54%). The oldest age group who were using SSRIs underwent most changes (23% vs 17% of changes for middle aged group vs 13% of changes for the youngest age group). NIMAO therapy was involved in 29% of changes (13% changes for middle aged depressed patients vs 15% changes for the oldest group). Benzodiazepine therapy participated in 7% of changes (4% of changes for middle aged and the elderly) (Figure 3.).

Table 2. Distribution of different sorts of depression treatment among patients with diagnosis Depressive episode (F32)(n=231) in different age groups: <45 yrs. (n=58), 45-65 yrs d. (n=97) and >65 yrs. (n=76)

Therapy	<45 yrs		45-65 yrs		>65 yrs	
	n	%	n	%	n	%
Without therapy	9	15.51	10	10.31	6	7.89
GP's support	8	13.79	21	21.65	7	9.21
Psychotherapy	7	12.06	2	2.06	1	1.32
Pharmacotherapy	5	8.62	7	7.22	17	22.37
Pharmacotherapy + GP's support	12	20.68	28	28.86	31	40.79
Pharmacotherapy + Psychotherapy	17	29.31	29	29.90	14	18.42

Table 3. Comparison of GPs unaided clinical diagnosis of depression and GPs attitudes about effectiveness of depression treatments for patients with diagnosis Depressive episode (F32)(n=231) in different age groups: <45 yrs. (n=58), 45-65 yrs d. (n=97) and >65 yrs. (n=76)

Characteristics	<45 yrs.		45-65 yrs.		>65 yrs		P*
	n	%	n	%	n	%	
Unaided clinical diagnosis:							
Nondepressed with therapy	30	51.72	47	48.45	26	34.21	
Nondepressed without therapy	20	34.48	28	28.87	31	40.79	
Depressed with therapy	8	13.79	22	22.68	19	25.00	0.152
Attitudes about effectiveness							
Pharmacotherapy	6	10.34	27	27.84	29	38.16	
Psychotherapy	11	18.97	19	19.59	4	5.26	
Combination	33	56.90	38	39.18	18	36.84	
Spontaneously remission	8	13.79	13	13.40	15	19.74	0.002

* χ^2 test

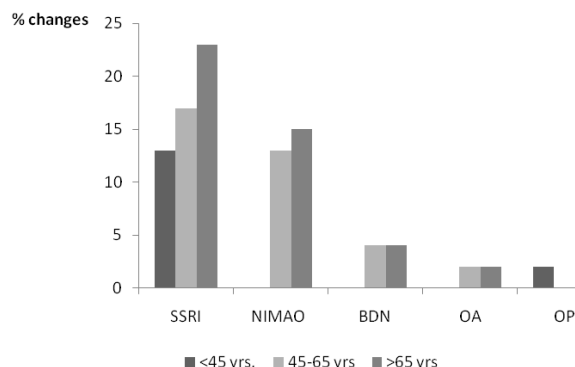


Figure 3. Frequency of pharmacotherapy changes among patients with diagnosis Depressive episode (F32) ($n_{\text{changes}}=52$) in different age groups <45yrs ($n_{\text{changes}}=8$), 45-65 yrs ($n_{\text{changes}}=19$), >65yrs ($n_{\text{changes}}=25$)

GP was providing care significantly more often for older patients (70%) than for the middle aged (48%) and youngest age group (31%) ($P<0.001$).

The biggest group of depressed patients were assessed by GPs as nondepressed with therapy (45%), followed by the group assessed as nondepressed without therapy (34%). The smallest group, about one fifth (21%) were assessed by GPs as depressed with therapy.

About half of depressed patients from the youngest age group (52%) presented the biggest group assessed as nondepressed with therapy. In the oldest age group were the most patients assessed as nondepressed

without therapy (41%) and also the most patients assessed as depressed with therapy (25%)

GPs considered a combination of pharmacotherapy and psychotherapy as most effective for 43% patients, followed by pharmacotherapy effective for about quarter of patients (27%).

Psychotherapy and spontaneous remission was assessed equally effective (for 15% of patients.). GP assessed significantly often as the second most effective therapy psychotherapy for the youngest age group and for the oldest age group pharmacotherapy as the most effective ($P=0.002$). For the oldest age group, GPs assessed effectiveness of psychotherapy for 5% of patients vs spontaneous remission for 20% of patients (Table 3.).

DISCUSSION

Our main finding was, that unaided clinical assessment of depression outcome by GPs did not differ significantly among age groups although some differences existed. In our study, almost half of depressed patients were assessed by GPs as nondepressed with therapy, followed by one third assessed as nondepressed without therapy. The smallest group, about one fifth were assessed by GPs as depressed under therapy. The biggest group of depressed patients assessed as nondepressed with therapy was within the youngest age group (about half

of them). Most patients assessed as nondepressed without therapy (about 40%) and those assessed as depressed with therapy (quarter of them) were in the oldest age group. American authors also suggest that the prognosis for recovery is equal in young and old patients, although remission may take longer in older patients. Most patients (54 to 84 percent) recover, 12 to 24 percent relapse, and 4 to 28 percent remain ill or disabled (Birrer & Vemuri 2004). Blazer gives optimistic prognosis that elderly depressed outpatients without significant co morbid medical illness or dementia and who are treated optimally may exhibit a much better outcome, with over 80% recovering and remaining well throughout follow-up (Blazer 2003).

In our study, the youngest and the oldest age group mainly used only one drug in their therapy, but middle aged group almost equally used one or two drugs. About 50% of all patients used SSRI. Benzodiazepines were used most frequently in middle and oldest age groups. The most frequent combinations of antidepressants in the youngest age group were SSRIs and combination of SSRIs and benzodiazepines; in middle aged group it was combination of SSRIs and benzodiazepines and benzodiazepines; and in the oldest benzodiazepines and combination of SSRIs and benzodiazepines. Benzodiazepines were used mainly discontinuously in oppose to significant continuous usage in middle aged group. According to the European study of Factors Influencing Depression Endpoints Research (FINDER study), SSRIs are the most commonly prescribed antidepressants (Bauer et al. 2007). Recent literature has suggested that the use of benzodiazepines should be avoided as a rule because of their side effects, especially possibility of addiction (Sawada et al. 2009). An international collaborative study about prescribing of psychotropic drugs by primary care physicians also notices equal prescriptions of SSRIs and benzodiazepines as our study did (Linden et al. 1999).

We have noticed that NIMA0 was used slightly more often among the older patients, probably because of the previous positive experiences.

Recent studies suggested that antidepressant switching usually occurred during the first trimester of treatment (Marcus et al. 2009) and was considered legitimate with a SSRI being the first medication used (Ruhé et al. 2006). SSRIs were also considered to reduce substantially the incidence of patients discontinuing pharmacotherapy (Dobrez et al. 2000). We noticed in our study that elderly patients had their SSRI therapy changed more often than younger. A recent study in Japan suggested high prevalence of early discontinuation of SSRIs in young male patients (Tanno et al. 2009). Nearly one quarter of our patients on NIMA0, especially the older ones, also had their therapy changed.

In our study, GP was providing care significantly more often for older patients than for middle aged and two-fold more than in the youngest age group. According to the American study, 64% of older patients

received depression care from primary care physicians (Harman et al. 2006). Another study in France reported that depressive patients diagnosed by psychiatrists were younger than those identified by GPs (Tardieu et al. 2006). This may also be due to the fact that many young patients with psychological problems do not directly seek help from the GP, although they regularly consult them (Mauerhofer et al. 2009).

In general, combination of pharmacotherapy and GP's support was being the most commonly used treatment in the third of all depressed patients, followed by the combination of psychotherapy and antidepressant medication in a quarter of depressed patients.

Pharmacotherapy alone was being mostly reserved for older patients (about one fifth). About quarter of the youngest and middle aged depressed patients were receiving GPs support/psychotherapy by psychiatrist in comparison with only 10% of the oldest depressed patients. GPs' attitudes about effectiveness of depression treatment in different age groups corresponded with a described distribution of particular treatment in different age groups. As for the treatment, we have noticed that pharmacotherapy alone was being provided more often to older patients. The domination of (mostly inadequate) pharmacotherapy in treating elderly was also noticed in Germany (Stoppe 2008). This was also mentioned in recent studies, which support the widespread belief that combined treatment was more effective than just psychotherapy (Robinson et al., 2004; Cuijpers et al. 2009) or drug treatment alone (Pampallona et al. 2004). Psychotherapy and pharmacotherapy were also considered to be more effective than usual GP's care (Wolf & Hopko, 2008). In our study, within both depression groups elderly received less frequent solely psychotherapy or GP's support in comparison with younger age group, in spite that literature strongly recommends psychological therapies especially for elderly (Birrer & Vemuri 2004).

Limitation of this study was impossibility to distinguish depression grade according to ICD-10 on mild, moderate and severe depression among either Depressive episode (F32) or Recurrent depressive disorder (F33), because of imprecise coding either by family physicians or by psychiatrists in medical records.

CONCLUSIONS

Unaided clinical assessment of depression outcome by GPs did not differ significantly among age groups although some differences existed. About 50% of all patients used SSRI. Benzodiazepines were used most frequently in middle and in the oldest age group. GP was providing care significantly more often for older patients than for the middle aged and two-fold more than in the youngest age group. In general, combination of pharmacotherapy and GP's support/psychotherapy by psychiatrist was being the most commonly used treatment. Pharmacotherapy alone was being mostly reserved for older patients and GPs support/psychotherapy

by psychiatrist for middle aged and youngest age group. GPs attitudes about effectiveness of depression treatment in different age groups corresponded with described distribution of particular treatment in different age groups

Further investigation of specific depression treatment compared with outcome measures should give the answer whether those differences are justified.

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