Prescribing patterns in patients using new antidepressants

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Aims To study possible selective prescribing ('channelling') we compared characteristics of patients using the SSRI sertraline with patients using longer available SSRIs.
Methods An observational cohort study in 1251 patients being prescribed an SSRI.
Results In contrast to other studies, we found no evidence for channeling of sertraline. Sertraline was mainly prescribed for the labelled indication (depressive disorder), while older SSRIs were more often prescribed also for other indications. Time on the market was inversely associated to the proportion of patients treated for depressive disorder.
Conclusions We found no evidence for channeling of sertraline compared with prescribing patterns of older SSRIs.

Keywords: pharmacoepidemiology, prescribing patterns, SSRI

Introduction

New antidepressant drugs have to compete with longer available treatments. This can result in selective prescribing of new drugs in patients with more complex morbidity, i.e. patients not responding to previous therapy, showing adverse drug reactions or having a more severe disease status or comorbidity [1]. This 'channelling' phenomenon, has been reported in patients who were prescribed selective serotonin reuptake inhibitors (SSRIs) compared with patients being treated with tricyclic antidepressants (TCAs) [2, 3]. Egberts *et al*. [2] found significant differences in patient and prescriber characteristics. These differences are important in evaluating therapy outcomes and need to be considered in positioning a new drug in pharmacotherapy options.

We performed a study immediately following the introduction of sertraline to the Dutch market comparing characteristics of patients receiving sertraline with patients in whom the longer available SSRIs (fluoxetine, fluvoxamine and paroxetine) were prescribed to assess the occurrence of channelling in psychiatric practice.

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Methods

This observational cohort study was conducted (1995–1997) following the introduction of sertraline on the Dutch market in October 1994. The study was designed according to the SAMM (Safety Assessment on Marketed Medicines) guidelines [4]. The study protocol was approved by the Medical Ethical Committee of the Academic Hospital in Utrecht.

A sample of 554 psychiatrists was approached of which a total of 109 agreed to participate in the study. The psychiatrists worked in psychiatric (16.5%) and general hospitals (21.1%), regional institutes of mental health (RIAGG, 39.4%) or in private practices (22.9%). Psychiatrists recorded all prescriptions in a prescription log and asked all patients with a sertraline prescription to participate in the study. Consecutive patients using one of the SSRIs fluvoxamine, fluoxetine or paroxetine were asked to act as control patients. No additional inclusion or exclusion criteria were applied following daily clinical practice as close as possible. From all included patients written informed consent was obtained.

Information on age, gender, indication, psychiatric and somatic comorbidity and comedication were recorded by the psychiatrist. Medication records were provided by the pharmacist. The psychiatric indications were classified according to DSM-IV [5].

The distribution of patient characteristics was calculated for the total study population and for each individual SSRI

separately. Statistical significance was tested with Chi square tests with $P<0.05$ as the criterion for significance. All analyses were carried out using Foxpro database and SPSS statistical packages.

Results

The total study population included 1251 patients of which 449 (35.9%) were male and 802 (64.1%) female. Sertraline was used by 659 patients (52.7%), 390 patients (31.2%) used paroxetine, 115 patients (9.2%) used fluoxetine and 87 patients (7.0%) used fluvoxamine. The gender distribution was similar in all treatment groups. The majority (59.0%) of patients was under 45 years of age. The median age was 41 years (s.d. 18 years).

Table 1 shows medical history and comorbidity of all patients and of patients using sertraline compared with longer available SSRIs. Somatic medical history included heart disease (hypertension, fibrillation, heart failure or cardiovascular stroke), asthma and diabetes. Heart disease was more frequently reported by users of paroxetine (7.7%) and significantly less often reported by fluoxetine users (0.9%). Psychiatric history was not significantly different between the users of SSRIs.

No differences were found in previous use of antidepressants between patients on sertraline compared with other SSRIs. More than 40% of all patients used benzodiazepines prior to and during SSRI treatment (data not shown). Psychiatric comorbidity of anxiety disorder (12.8%) was significantly more often seen in patients using older SSRIs. A large part of the patients (37.8%) showed multiple psychiatric diagnoses. Depressive disorder and anxiety disorder were significantly more often seen in patients using other SSRIs. A combination of depressive disorder and personality disorder was most often seen in patients using sertraline.

Figure 1 shows the distribution of depressive disorder, anxiety disorder and other indications within the different

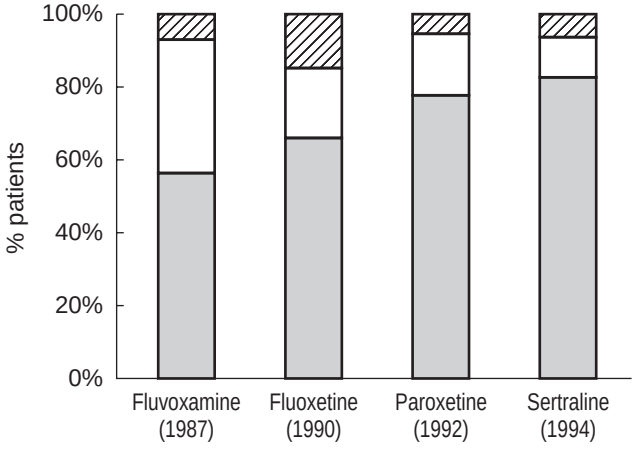

Figure 1 Distribution of indications per SSRI ($n=1251$). ▨ other, □ anxiety disorder, ▢ depressive disorder.

Table 1 Diagnoses, psychiatric history and comorbidity for the study population.

	All patients n = *1251*	*Sertraline* n = *659*	*Other SSRIs* n = *592*	*Odds ratio (95% confidence interval)*
Somatic history of				
Heart disease	65 (5.2)	33 (5.0)	32 (5.4)	1.08 (0.64,1.84)
Asthma	28 (2.2)	15 (2.3)	13 (2.2)	0.96 (0.43,2.16)
Diabetes	26 (2.1)	17 (2.6)	9 (1.5)	0.58 (0.24,1.39)
Psychiatric history of				
Depressive disorder	35 (2.8)	15 (2.3)	20 (3.4)	1.50 (0.73,3.12)
Other psychiatric disorder	70 (5.6)	34 (5.2)	36 (6.1)	1.19 (0.72,1.98)
Social problems	14 (1.1)	10 (1.5)	4 (0.7)	0.44 (0.12,1.54)
Previous use of				
TCA	192 (15.3)	109 (16.5)	81 (13.7)	0.80 (0.58,1.11)
SSRI	369 (29.5)	200 (30.3)	168 (28.4)	0.91 (0.71,1.17)
Psychiatric comorbidity				
Depressive disorder	97 (7.8)	51 (7.7)	46 (7.8)	1.00 (0.65,1.55)
Anxiety disorder	134 (10.7)	58 (8.8)	76 (12.8)	1.53 (1.05,2.23)
Personality disorder	140 (11.2)	84 (12.7)	56 (9.5)	0.72 (0.49,1.04)
Other psychiatric disorder	136 (10.6)	73 (10.9)	63 (10.6)	0.96 (0.66,1.39)
Social problems	66 (5.3)	37 (5.6)	29 (4.9)	0.87 (0.51,1.47)
Multiple diagnoses				
Total	473 (37.8)	247 (37.4)	226 (38.2)	1.03 (0.81,1.30)
Depressive and anxiety disorder	117 (9.4)	51 (7.7)	66 (11.1)	1.50 (1.00,2.23)
Depressive and personality disorder	108 (8.6)	69 (10.5)	39 (6.6)	0.60 (0.39,0.93)

SSRIs. Sertraline, the most recently introduced (1994), was mainly prescribed for depressive disorders (82.9%). Time on the market was inversely associated with the proportion of patients treated for depressive disorder. A small number of patients received sertraline for treatment of anxiety disorder (11.2%) or other disorders (5.9%). Fluvoxamine was most often prescribed for anxiety disorder (36.8%) followed by fluoxetine (19.1%) and paroxetine (16.9%).

Discussion

In this study we evaluate differences in patient characteristics of users of SSRIs. New drugs are likely to be selectively prescribed to patients with a complex disease status or history [1]. This channelling effect of new drugs is most obvious directly following introduction to the market. Other authors found differences between users of individual SSRIs in type of prescriber, previous use of antidepressants or other psychotropic drugs [2, 6]. We evaluated possible channelling of sertraline, a new SSRI with no obvious advantages or disadvantages with regard to safety or effectiveness compared to the three SSRIs already available.

In our study we found no differences in previous use of antidepressants or other psychotropic drugs between users of sertraline and other SSRI users. However, we did find differences in psychiatric comorbidity. Patients using sertraline more frequently had a combination of depressive disorder and personality disorder compared with patients using older SSRIs; these may be indicating more complex patients. Comorbidity of anxiety disorder was significantly seen more frequently in patients using other SSRIs, but this may be explained by the broader range of labelled indications of the older SSRIs.

Older SSRIs were more often prescribed for indications other than depressive disorder. This may partly be explained by the extended labelling of the older SSRIs, but a notable proportion of sertraline patients was treated for nonlabelled indications. Our results suggest that in clinical practice psychiatrists mainly prescribe according to the labelled indications, but that experience and other required knowledge may result in prescription of SSRIs for unlabelled indications. This is consistent with a recent finding of Garrison *et al*. who found prescribing differences for SSRIs based on familiarity with the agent [7].

Limitations of this study may lie in the selection of psychiatrists and patients. Of all psychiatrists approached, 20% participated in the study. Reasons for nonparticipation were most often lack of time or interest in the study subject. This could lead to a selection of psychiatrists more prone to prescribing sertraline. Furthermore, the participating psychiatrists may not have followed the protocol by not including all sertraline patients or controls. However, from comparing the prescription logs with the inclusion data we found no evidence that nonparticipation or exclusion of complex patients differed among sertraline patients and controls. All patients included in our study were outpatients with SSRI prescriptions by a psychiatrist, making the results of this study applicable to these patients only.

In conclusion, we found no evidence for channelling of sertraline compared with prescribing patterns of older SSRIs among psychiatrists. It appears that the clinical relevance of channeling is more prominent at introduction of a new therapeutic (sub)class than when a new drug is introduced into a class with numerous drugs already available.

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