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The association between lifting an administrative restriction on antidepressant dispensing and treatment patterns in Iceland

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ABSTRACT

Purpose: On March 1st 2009, restrictions on the dispensing of selective serotonin reuptake inhibitors (SSRI) in Iceland were lifted. Incident rates and changes in early discontinuation and switching before and after the change were investigated.
Methods: New users of antidepressants between March 1st 2006 and March 1st 2010 were selected from the Icelandic Prescriptions Database. The study population was split into one intervention cohort (2009) and three comparison cohorts (2006, 2007, and 2008). Incidence rate ratios (IRR) and odds ratios (OR) were used to compare incidence rates and early discontinuation.
Results: The overall incidence rates of antidepressant use decreased from 33.10 to 28.71 per 1000 persons per year (IRR 0.87; 95% confidence interval (CI), 0.78–0.97) from the 2006 to the 2009 cohort. The incidence rate for SSRIs did not change over the period. Early discontinuation for SSRIs increased from 30.2% in 2006 to 34.1% in 2009 (OR 1.19; 95% CI 1.06–1.33).
Conclusions: The change in reimbursement does not seem to have affected incidence rates but it may be related to increased early discontinuation, which can lead to increased drug wastage. It might be more clinically rational to initiate patients on smaller supply, allowing for more frequent check-up visits.

1. Introduction

The use of antidepressants, and especially selective serotonin reuptake inhibitors (SSRIs), has increased in previous decades [1,2]. However, this increase seems to be caused more by increased duration of use than increased incidence [3–6]. Antidepressant use in Iceland has increased from 71 DDDs (Defined Daily Dose [7]) per

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1000 inhabitants in 2000, to 95 DDDs in 2007, the highest in the OECD countries (Organization for Economic Co-operation and Development) [8].

Various changes in reimbursement rules have been found to affect drug use and adherence to treatment in different ways: increased patient co-payment has led to decreased adherence, while suspension of reimbursement and reference pricing has been linked with higher non-adherence, discontinuation rates, switching and decreased prescribing [9–15]. In Iceland medicines are generally reimbursed for up to a 3-month or 100-day supply at each dispensing for which the patient pays the price up to a fixed maximum amount (3700 ISK, 23€ in 2009 [16]); the remainder is then reimbursed by the state outpatient health plan.

An important exception to this rule was the reimbursement of SSRIs (Anatomical Therapeutic Chemical (ATC) class N06AB [7]), which was for a long time restricted to a 1-month supply per dispensing, although it was possible to apply for an exemption to get a 3-month supply at each dispensing [17]. Dispensing of other antidepressants was not restricted in this way. For a 1-month supply of SSRIs, the patient paid the cost of the supply up to the same fixed maximum amount as for a 3-month supply (3700 ISK, 23€), the rest was reimbursed by the state outpatient health plan. In case of the more expensive SSRIs patients could be paying the same amount for a 1-month or a 3-month supply. On March 1st 2009, the 1 month restriction on SSRI dispensing was suspended [16], allowing all patients to fill a prescription for a 3-month supply. This change was designed to increase patients' access to SSRIs, allowing them to get a larger amount in each dispensing at less cost per dose.

This change in reimbursement of SSRIs raised questions on what the influences of the change in amount of antidepressants supplied to new users, i.e. a 1-month or a 3-month supply would be for antidepressant treatment patterns. Therefore the objective of this study was to investigate antidepressant treatment patterns in patients initiating antidepressant drug use before and after the reimbursement change on March 1st 2009. More specifically the study investigated changes in early discontinuation and switching before and after the reimbursement change.

2. Methods

2.1. Setting and study population

Data were collected from the Icelandic Prescriptions Database (IPD), which is a nationwide medicines registry containing information on dispensed prescriptions for all outpatients in Iceland since 2002. The IPD stores information using a personal identifying number, unique to every citizen, making it possible to follow the dispensing history of all inhabitants. It also stores information about patients' gender and age at each dispensing. For every dispensing, information on date of prescribing, date of dispensing, as well as information on the dispensed drug, such as ATC code, number of DDDs, brand name, strength, and number of dispensed tablets is recorded in the database.

The study population included all new users -18 years of age or older – of antidepressants (ATC therapeutic subgroup N06A) from March 1st 2006 to February 28th 2010. The date of first antidepressant dispensing for each patient was defined as index date. Information on date of death or emigration was retrieved from Registers Iceland which was linked to the dispensing data from the IPD. Because the IPD does not cover medicine dispensing in health care facilities (e.g. nursing homes), the upper age limit of participants was restricted to 69 years at index date. Patients who initiated treatment on tricyclic antidepressants (ATC class N06AA) were excluded from the analysis, because these medicines are used for a wide range of indications other than depression– such as sleep disturbance and pain [18,19]. Information on hospitalizations was retrieved from the Icelandic Inpatient database.

The study population was grouped into four cohorts, an intervention cohort and three comparison cohorts. The intervention cohort included new antidepressant users in the first 12 months after the change in reimbursement, from March 1st 2009 to March 1st 2010. The comparison cohorts included new antidepressant users in three 12-month periods preceding the reimbursement change.

2.2. Incidence rates

New users were defined as patients who had not filled a prescription for any antidepressant during the 12 months before the index date. New users were grouped into the study cohorts based on their index dates. Dispensing histories were checked as far back as to March 1st 2005 to ensure that all new users had a 12-month antidepressant-free period. Each individual could appear as a new user in more than one cohort as long as the individual had discontinued the treatment for at least 12 months before initiating the treatment again.

2.3. Early discontinuation and switching

In order to allow for adequate follow-up time, early discontinuation and switching was only assessed for patients who filled their first prescription during the first 9 months (March 1st to November 30th) of each study cohort time period. Each patient was followed up for 7 months after the index date. While the IPD does not include information on prescribed daily dose, most antidepressants are intended to be taken once a day [20,21]. Tablets are marketed in different strengths and the most common package sizes marketed are 28 or 30 tablets (representing a 1-month supply) or 98 or 100 tablets (representing a 3-month or 100 day supply). It may therefore be assumed that the number of dispensed tablets also represents the intended duration of the prescription.

Early discontinuation was defined as filling an antidepressant prescription on the index date without a second refill prescription within a defined time period. The time allowed to pass between the index date and the second dispensing was defined as the number of tablets dispensed in the first dispensing multiplied by two, *or* 190 days, whichever was *less*. Early discontinuation was assessed as