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Distinctive use of newer and older antidepressants in major geographical areas: A nationally representative register-based study

Jaana I. Halonen,[1*] Aki Koskinen,[1] Anne Kouvonen,[2,3,4] Pekka Varje, [1] Sami Pirkola,[5] Ari Väänänen[1,6]

[1] Finnish Institute of Occupational Health, Helsinki/Kuopio, Finland

[2] Faculty of Social Sciences, University of Helsinki, Helsinki, Finland

[3] SWPS University of Social Sciences and Humanities in Wroclaw, Wroclaw, Poland

[4] Administrative Data Research Centre (Northern Ireland), Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom

[5] Department of Social Sciences, University of Tampere, and Pirkanmaa Hospital District Psychiatry, Finland

[6] School of Social Policy, Sociology and Social Research, University of Kent, United Kingdom

*****Corresponding author: Dr. Jaana I. Halonen, Email: jaana.halonen@ttl.fi Telephone: +358 43 82 44 264, Postal address: Finnish Institute of Occupational Health, PO Box 310, 70101 Kuopio, Finland

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Abstract

Background It is unknown whether newer, mainly selective serotonin reuptake inhibitors, and older tricyclic antidepressants are used similarly regardless of the geographical area of residence and education.

Methods We included four randomly sampled cohorts of the Finnish working aged population (n=998,540–1,033,135). The sampling (Dec 31st in 1995, 2000, 2004 and 2010) resulted in non-overlapping time windows where each participant was followed up for four years for the first antidepressant use. Using Cox proportional hazards models, we examined whether the hazard of antidepressant use differed between the capital area and three other areas (Southern, Western and Northern/Eastern Finland). Educational differences were examined using four sub-groups: capital area/high education (reference category); other areas/high education; capital area/low education; and other areas/low education.

Results Hazard ratios for the use of newer antidepressants were significantly lower in all other areas compared to the capital area after adjustment for age, sex, marital status, employment status, education, income, and area-level unemployment. Findings remained consistent in all time windows, differences increasing slightly. In the sub-group analysis those with low education had the lowest level of use in all areas, also within the capital area. The results were opposite for older antidepressants in all but the last time window.

Limitations Some degree of unmeasured confounding and exposure misclassification is likely to exist.

Conclusions Newer antidepressants were more commonly used in the capital than in the other areas, and among those with high versus low education. These differences in antidepressant use suggest socioeconomic inequalities in the mental health treatment quality.

Keywords: antidepressant; education; geographical area; inequality; SSRI; socioeconomic

Abbreviations

ATC code = Anatomical Therapeutic Chemical code

NUTS = Nomenclature of Territorial Units for Statistics

SSRI = Selective serotonin reuptake inhibitors

TCA = Tricyclic antidepressants

WHO = World Health Organization

Introduction

Depression is one of the leading causes of disability in high income countries (GBD 2015 DALYs and HALE Collaborators 2016). Antidepressant medication is the main treatment method for depression, with selective serotonin reuptake inhibitors (SSRIs) being currently one of the most used antidepressant classes (Bauer et al. 2008; Serna et al. 2010).

The advent of SSRIs was in the 1990's after which their use, often measured as the prevalence of prescriptions, has steadily increased (Aarts et al. 2014; Mars et al. 2017; Noordam et al. 2015; Raymond et al. 2007; Stephenson et al. 2013) replacing older antidepressants such as tricyclic antidepressants (TCAs). The increase in the use of SSRIs has been related to the increase in their long-term use as well as to the fact that they are increasingly being prescribed for other than depression-related conditions. At the same time the incidence of SSRI use has decreased (Aarts et al. 2014; Mars et al. 2017; Noordam et al. 2015). However, it is not known if these newer antidepressants have been equally available and used at similar levels regardless of the geographical area of residence or the socioeconomic position. On one hand, it is possible that the use of newer antidepressants has been more prevalent in areas and in socioeconomic groups in which their need is the greatest, i.e., where the prevalence of mental health problems is high (Topuzoglu et al. 2015). On the other hand, the use of newer drugs may also have proliferated in areas with up-to-date health care services and/or better access to such services (Gibbons et al. 2005; Tondo et al. 2006), as well as among the higher educated populations who more actively search for information about new treatment options and who are more prepared to use mental health services (Alonzo et al. 2011).

To shed light on the differences in antidepressant use, we examined the geographical and educational differences in the use of newer (including SSRIs) and older antidepressants (TCAs) in Finland. Our hypothesis was that there are regional differences in

the use of newer and older antidepressants and that these differences may be related to educational level. Possible differences were assessed by examining the level of use between high and low education groups. To unveil possible changes in the long-term trends of use of different antidepressant classes, we examined the area-level differences in four non-overlapping time windows. In each time window we followed a representative random sample of the Finnish working-age population for up to four years between 1996 and 2014.

Methods

Study population

We included four representative cohorts of Finnish residents by randomly selecting 33% of the 18-64 year old permanent residents from the Population Register maintained by Statistics Finland. For the current analyses we included those individuals who resided in the same county for the entire follow-up period of four years. The selection dates for the cohorts were December 31st in 1995 (n=998 540, follow-up time window: 1996-1999), 2000 (n=1 010 153, 2001-2004), 2004 (n=1 017 626, 2005-2008), and 2010 (n=1 033 135, 2011-2014). The dates of death were obtained from the National Death Register, also maintained by Statistics Finland. The ethics committee of the Finnish Institute of Occupational Health approved the study.

Geographical areas

Finland is divided into five major regions (Statistics Finland 2015) according to the Eurostat's NUTS (Nomenclature of Territorial Units for Statistics) level 2 classification (Eurostat 2013). These areas are defined as having 800 000 - 3 000 000 inhabitants, but for practical reasons, the classification usually reflects the territorial administrative boundaries within the country in question. For the analyses, we used four of the five areas that are:

capital area (used as the reference category), Southern Finland, Western Finland, and Northern/Eastern Finland (Statistics Finland 2015). The reference category was chosen based on the level of education: of these areas, the average length of education after basic education was the highest in the capital area (Statistics Finland 2014b). We excluded the fifth area, Åland, which is an island in the Baltic Sea, as there were too few cohort members from this area.

Antidepressant use

We defined newer antidepressants as SSRIs (WHO Anatomical Therapeutic Chemical (ATC) code N06AB (WHO Collaborating Centre for Drug Statistics Methodology 2011)), and other antidepressants (N06AX). The older antidepressants included TCAs (ATC code: N06AA). All purchases of these medications during the follow-up period for each individual in the four cohorts were obtained from the Finnish Prescription Register of the Social Insurance Institute of Finland. The register contains the dispensing date and the ATC code for all purchased medications reimbursed to Finnish residents in non-institutional settings. These data were linked to the participants' socio-demographic characteristics using national ID numbers that are unique to each permanent resident in Finland. All data were anonymized before they were made available for the researchers.

Covariates

From the Population Register we obtained information about each individual's age, sex, marital status (single, married, separated/divorced, or widowed), level of education (low = high school or vocational school or less; high = college or university), total annual personal income, and employment status (employed, unemployed or other). These variables were included as covariates because age (Lewer et al. 2015; Serna et al. 2010), female sex

(Hämäläinen et al. 2009; Lewer et al. 2015), being single (Hämäläinen et al. 2009), low education (Annequin et al. 2015), and unemployment (Lewer et al. 2015) have been linked to depression and/or antidepressant use in prior studies. In addition to participants' own employment status we controlled for area-level unemployment rate in the first year of follow-up. These data were obtained from Statistics Finland (Statistics Finland 2014a). This was because neighbourhood factors such as neighbourhood income (Annequin et al. 2015), and unemployment (Barr et al. 2015) have been linked to mental ill-health.

Statistical analyses

To illustrate trends in the SSRI and TCA use in the different areas we applied multivariable Cox modelling approach (PHREG procedure of SAS 9.4) where time until the first antidepressant purchase was counted in months. These models were adjusted for age, sex, marital status, employment status, education, total annual personal income and area-level unemployment rate.

We then examined the hazard for use of the newer and older antidepressants (PHREG procedure) by areas within each time window. The models were adjusted for age, sex, marital status, employment status, education, total annual personal income and area-level unemployment rate. Individuals in each time window were followed-up from the first day after the selection until the first purchase of antidepressants (i.e., the use of antidepressants), death, or the end of the four-year follow-up period, whichever occurred first.

An additional analysis was conducted to distinguish the possible socioeconomic differences by forming four exposure categories combining geographical area and individual level education. Sub-group including those who lived in the capital area and had high education served as the reference category and the other sub-groups were: (any of the) other areas/high education; capital area/low education; other areas/low education. These sub-group

analyses were adjusted for all the covariates except for education. As a sensitivity analysis, we stratified the SSRI analyses by sex. As we had no information about the individuals' previous antidepressant use, we additionally performed sensitivity analyses by excluding the first two months of the follow-up.

The results of the analyses are presented as hazard ratios (HR) with 95% confidence intervals (CI). All analyses were conducted with SAS 9.4 (SAS Institute Inc. 2015). Because the four cohorts were randomly selected, the same individual could appear in more than one time window. However, we were not able to identify such cases and thus in the analyses the time cohorts were assumed to be independent.

Results

Descriptive statistics

Baseline descriptive statistics of the participants in the four time windows are presented in Table 1. The largest changes between the time windows were observed for the socioeconomic factors, and these changes were similar in all areas (data not shown). The proportions of those with high education, higher income and those employed were higher in the later vs. earlier time windows. The prevalence of SSRI use was the highest of all antidepressant classes although the prevalence of the other antidepressants increased to a nearly similar level in the latest time window (Table 2). Of the areas, prevalence of SSRI use was the highest in the capital area and lowest in the Northern/Eastern area in all four time windows. The prevalence increased slightly until the 2005-2008 time window in all geographical areas (e.g., from 7.8% in 1996-1999 to 11.1% in 2005-2008, in the capital area). The older antidepressants, TCAs, was the second largest class in the first time window but their prevalence decreased over time, and in all time windows their use was the lowest in the capital area (Table 2). The

prevalence of SSRI use was higher among women than men in all time windows (Supplemental Table 1). In both sexes the prevalence was the highest in the capital area.

Probability of antidepressant use

Figure 1 presents the adjusted probability of SSRI use by areas in the four time windows (panels A-D). The probability of using SSRIs was the highest in the capital area in all time windows, and the difference between the capital and the other areas seemed to have increased over time (p-value <0.0001 for interaction "capital area vs. other areas" * "cohort 1995 vs. 2010") (Figure 1). The probability of using TCAs was slightly lower in the capital versus other areas in the first time window, but the area-level differences leveled off over time (Supplemental Figure 1).

The use of antidepressants by area

Table 3 presents the HRs for the newer (SSRI and others) and older (TCA) antidepressant use by geographical areas. For SSRIs and other antidepressants the hazards were lower in the three areas outside the capital area even after adjustment for the area-level unemployment. The findings were consistent in all time windows. The hazards of SSRI use in the three areas vs. capital area decreased slightly from the earliest examined time window to the latest. The results for TCAs were opposite in the three earliest time windows, suggesting a greater use outside the capital area. However, in the last time window the area differences for the use of these older drugs were into the same direction as for the newer antidepressants. The geographical differences in SSRI use were more pronounced among women than men, among whom all estimates did not reach statistical significance in the first two time windows (Supplemental Table 2). Sensitivity analyses excluding the two first months of follow-up resulted in nearly identical effect estimates (data not shown).

The use of antidepressants by area and educational level

Educational level had a significant role in the use of antidepressants as those with low education used the newer antidepressants less often than those with high education (Table 4). Even within the capital area those with low education had a lower likelihood of SSRI use than those with high education, the HRs being 0.96 (95% CI 0.92–1.01) for 1996-1999; 0.91 (95% CI 0.88–0.95) for 2001-2004; 0.91 (95% CI 0.89–0.94) for 2005-2008; and 0.89 (95% CI 0.87–0.92) for 2011-2014. Again, contradicting results were observed for the TCA use; the highest hazard was among those living outside the capital area and with low education (Table 4). When stratifying by sex, both men and women with low education, regardless of area, had the lowest hazard for SSRI use (Supplemental Table 3). In the 2010s, the hazard of the SSRI use became higher for women with high education and residence outside the capital area (HR 1.05, 95% CI 1.01–1.09 for 2011–2014). Excluding the two first months of follow-up had only a negligible effect on the results (data now shown).

Discussion

Our findings suggest that, in Finland during the study period between 1996 and 2014, the use of newer antidepressants has been more common in the capital area, whereas the use of older antidepressants has been more common in the areas outside the capital. The associations were also affected by the educational level so that those with low education had a lower likelihood of using newer antidepressants compared to those with high education, even within the capital area. On the contrary, until 2011 the hazard for use of older antidepressants was higher among those with low education, particularly outside the capital area. The differences in the SSRI use between the capital area and other areas seemed to have increased slightly

between 1996 and 2014, whereas the differences in the use of older antidepressants between areas has leveled off.

To the best of our knowledge, the geographical differences in the use of different antidepressant classes have not been previously examined in this detail and over such a long study period. A prescription is needed for antidepressant use in Finland, so the area differences may reflect discrepancies in clinical practice (Zakarias et al. 2016), or quality of (Gibbons et al. 2005) or access to mental health care. We believe that the prevalence of mental disorders does not play a significant role in differences in antidepressant prescription practices in Finland, and thus is unlikely to explain our findings. In representative national surveys, no marked geographical differences in the prevalence of common mental disorders have been observed, other than a slightly elevated prevalence of depressive disorders in the Northernmost University Hospital District (one out of five), and of alcohol use disorders in the Southernmost University Hospital District (Pirkola et al. 2005). The prescription practices and quality of care can also depend on the treating physician, but we had no data to examine this. As in these data the area-level education was the highest in the capital area, a better knowledge of the available treatment options, i.e. of newer antidepressants, in the capital area may have contributed to the area differences.

When additionally taking into account the individual-level education we observed that the hazard for newer antidepressant use was lower among those with low compared to high education, also within the capital area. This partly agrees with prior findings from the Finnish public sector where men, but not women, with low socioeconomic status had a lower risk of antidepressant use compared to those with high socioeconomic status (Kivimaki et al. 2007). In another study, however, education and income were not determinants of antidepressant use among Finns with major depressive disorder (Hämäläinen et al. 2009). These mixed findings, compared to ours, are likely to be related to different

study populations as well as to the more sensitive restriction of the drug classes in our study. Indeed, we observed opposite findings for the older, when compared to newer, generation antidepressants. This suggests that antidepressant use has been differentiated by areas so that until the early 2010s newer drugs have been favored in the (higher educated) capital area and the older drugs have been more often prescribed outside the capital area. The observed educational differences in the use of newer antidepressants further suggest that those with high, compared to low, education may be more active in seeking new treatments and help for mental health problems. These findings support those of earlier studies suggesting socioeconomic inequalities exist in healthcare use as well as in access to treatment in Finland (Kivimaki et al. 2007; McCallum et al. 2013).

The educational inequalities in the use of newer antidepressants remained rather constant over the examined time windows, but the differences in the use of older drugs leveled off over time. In other studies, socioeconomic differences have been examined between the employed and the unemployed, and belonging to the latter group has been linked to a higher likelihood of antidepressant use (Butterworth et al. 2013; Lewer et al. 2015), although opposite findings have also been reported (Lundin and Hansson 2014). These studies, however, did neither examine long-term trends in antidepressant use nor distinctive antidepressant classes, which may have masked some associations. Furthermore, a recent study concluded that the differences by employment status may arise from health selection (Leinonen et al. 2017), which means that those with mental health problems are more likely to become selected into unemployment than vice versa.

The observed educational differences in the use of older and newer antidepressants may have important public health implications. It has been suggested that the older generation TCAs have more side effects than the newer antidepressants (Meister et al. 2016), and earlier research has reported lower risk of suicides among SSRI than TCA users

(Gibbons et al. 2005). Although no relationship between sales of SSRI or TCA and suicide rates has been confirmed in the Nordic countries (Zahl et al. 2010), those with low education may have suffered from a higher risk of events related to the nervous system and some somatic problems (Meister et al. 2016).

Our study is not without limitations. As we had no information of individual health behaviors, including the actual use of the purchased medications, some degree of unmeasured confounding is likely to exist. In addition, the history of antidepressant use of the participants before the start of the follow-up was not available. Thus, we were not able to restrict the analyses to incident use. It should also be kept in mind that the outcome measures may reflect broader symptom groups and increasingly other than mental health issues (Jorm et al. 2017; Sihvo et al. 2008). At the area-level, healthcare expenditure has been identified as a predictor of antidepressant use (Lewer et al. 2015). We had no information about the levels of spending on healthcare, but we did control for area-level unemployment. Some exposure misclassification is also possible as we had no data on the living histories of the individuals prior to follow-up. Some may have moved into the geographical area shortly before the start of the follow-up period, and thus this geographical area is likely to have had only small influence on their health and health behavior, including medication use. However, as the analytical samples were large and the included participants resided in the same geographical area for the whole follow-up period, we believe that exposure misclassification has had only minor impact on the results. Moreover, prices of prescription medications are the same across the whole Finland (Pharma Industry Finland 2016). The price differences between the newer and older antidepressants have also been modest, suggesting that the prices of the different medication classes do not explain our findings. The major strengths of this study are: the large national samples in each time window that were representative of the working age population, a long observation period, the analytical distinction between newer and older

generation antidepressants, high validity of the register data with no loss to follow-up or self-reporting bias, and the control for individual-level socio-demographic factors as well as the area-level unemployment rate.

Conclusions

In summary, in the working-age population the use of SSRIs and other newer antidepressants was higher in the capital area than in the less urban areas, whereas the use of older antidepressants (TCAs) was more common outside the capital area. Education had a role in these associations so that those with low education had a lower hazard for the use of newer antidepressants than those with high education, also within the capital area. Older antidepressants were more commonly used among those with low education, particularly outside the capital area, until the early 2010s. The area-level differences regarding the newer antidepressants have slightly increased, but those regarding the older antidepressants have leveled off during the past 20 years. Overall, our findings suggest that there are area-level and socioeconomic inequalities in the treatment quality of mental ill-health and access to up-to-date mental health services, which in turn may further increase health inequalities in general.

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Figure legends

Figure 1. Adjusted [a] probability of using SSRIs by area in A) 1996-1999, B) 2000-2004, C) 2004-2008 and D) 2011-2014. Red= Capital area; Blue= Southern; Green= Western; Black= Northern/Eastern

[a] Models adjusted for age, sex, marital status, employment status, education, income and area-level unemployment rate.

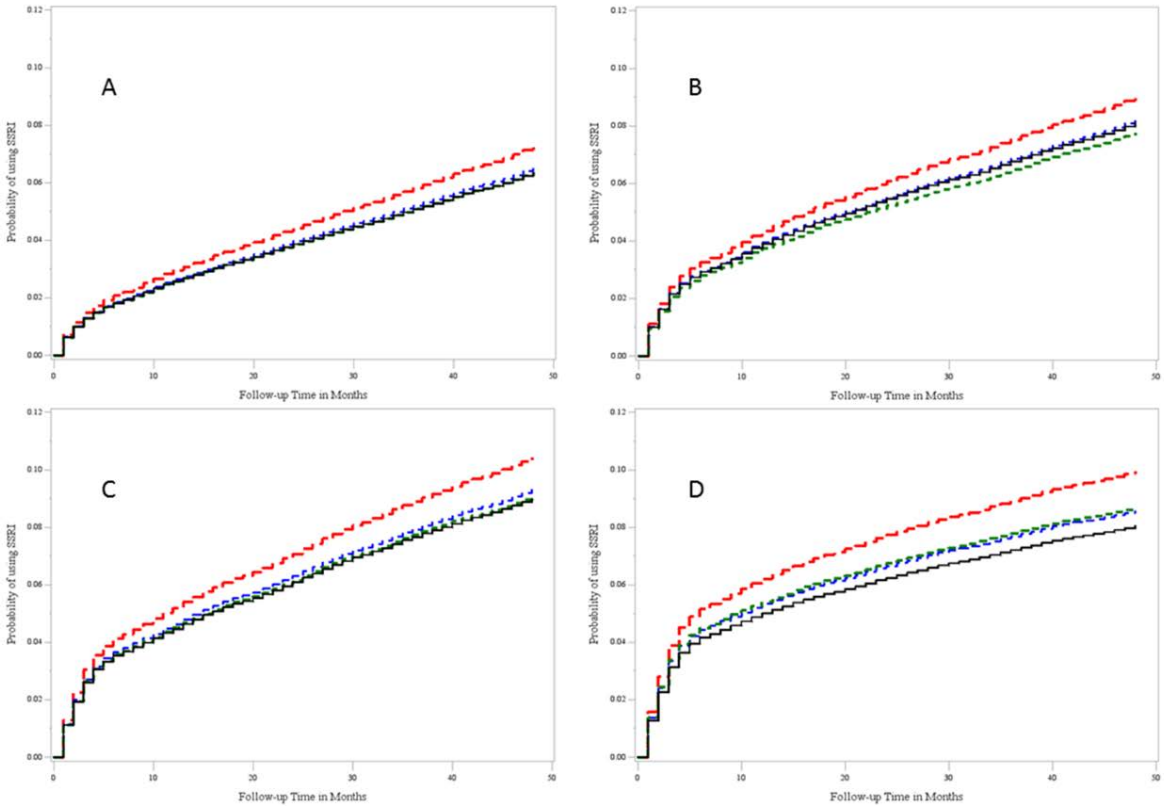

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Table 1. Descriptive statistics of data by the four time windows.

Variable	1996-1999 N (%)	2001-2004 N (%)	2005-2008 N (%)	2011-2014 N (%)
Total N	998 540	1 010 153	1 017 626	1 033 135
Age (years)				
18-24	114 796 (11)	118 656 (12)	118 585 (12)	119 276 (12)
25-39	341 957 (34)	315 984 (31)	302 696 (30)	304 399 (29)
40-55	376 358 (38)	391 775 (39)	373 995 (37)	355 164 (34)
55-65	165 429 (17)	183 738 (19)	222 350 (22)	254 296 (25)
Marital status				
Single	330 429 (33)	356 115 (35)	374 249 (37)	402 298 (39)
Married	543 009 (54)	517 399 (51)	503 019 (49)	489 876 (47)
Divorced	103 260 (10)	117 513 (12)	123 111 (12)	126 071 (12)
Widowed	21 842 (2)	19 126 (2)	17 247 (2)	14 890 (1)
Education				
Low	506 706 (78)	431 757 (60)	451 213 (60)	472 886 (58)
High	144 183 (22)	282 369 (40)	304 161 (40)	337 869 (42)
Income (€)				
< 10 000	318 799 (32)	253 329 (26)	215 329 (22)	175 173 (17)
10 000 – 24 999	496 977 (51)	450 671 (45)	392 620 (39)	295 202 (29)
25 000 – 39 999	128 674 (13)	205 669 (21)	263 851 (36)	320 734 (31)
> 40 000	37 827 (4)	82 582 (8)	127 997 (13)	215 107 (21)
Employment status				
employed	609 712 (61)	691 289 (68)	700 616 (69)	722 124 (70)
unemployed	145 328 (15)	97 195 (10)	91 341 (9)	81 873 (8)
other*	243 500 (24)	221 669 (22)	225 669 (22)	229 138 (22)
Geographical area				
Capital area	276 891 (28)	291 614 (29)	300 997 (30)	316 192 (31)
Southern	218 301 (22)	218 215 (22)	217 817 (21)	217 754 (21)
Western	250 194 (25)	251 880 (25)	252 018 (25)	253 374 (25)
Northern/Eastern	248 115 (25)	243 120 (24)	241 498 (24)	240 043 (23)
Geographical area / Level of education				
Capital / High	55 743 (9)	100 636 (14)	108 884 (14)	122 704 (15)
Other† / High	129 968 (20)	108 990 (15)	115 256 (15)	120 970 (15)
Capital / Low	87 877 (13)	180 441 (26)	194 013 (26)	213 709 (26)
Other† / Low	374 177 (58)	320 648 (45)	333 716 (44)	349 341 (43)

***** Other group for employment status includes students, draftees, retirees and those outside the labour force

† Southern, Western and Northern/Eastern Finland combined

Table 2. Prevalence of antidepressant use by geographical area in the four time windows.

Time window	**Capital area**	**Southern**	**Western**	**Northern/Eastern**
Newer	**N (%)**	**N (%)**	**N (%)**	**N (%)**
SSRI [a]				
1996-1999	21 674 (7.8)	14 753 (6.8)	15 899 (6.4)	15 179 (6.1)
2001-2004	28 428 (9.8)	18 893 (8.7)	20 568 (8.2)	19 492 (8.0)
2005-2008	33 502 (11.1)	21 719 (10.0)	24 324 (9.7)	22 087 (9.2)
2011-2014	31 887 (10.1)	20 167 (9.3)	23 740 (9.4)	21 332 (8.9)
Others [b]				
1996-1999	5076 (1.8)	3606 (1.7)	3906 (1.6)	5066 (2.0)
2001-2004	12 447 (4.3)	8960 (4.1)	9188 (3.7)	9764 (4.0)
2005-2008	19 707 (6.6)	13 615 (6.3)	15 113 (6.0)	14 586 (6.0)
2011-2014	27 189 (8.6)	16 845 (7.7)	20 573 (8.1)	20 121 (8.4)
Older				
TCAs [c]				
1996-1999	7335 (2.7)	6651 (3.1)	8017 (3.2)	7410 (3.0)
2001-2004	5087 (1.7)	4511 (2.1)	5271 (2.1)	4797 (2.0)
2005-2008	5474 (1.8)	4765 (2.2)	5729 (2.3)	4939 (2.1)
2011-2014	4559 (1.4)	3315 (1.5)	4256 (1.7)	3771 (1.6)

[a] selective serotonin reuptake inhibitors (N06AB); [b] other antidepressants (N06AX); [c] tricyclic antidepressants (N06AA)

Table 3. Hazard ratios for newer (SSRI [a] and Others [b]) and older (TCA [c]) antidepressant use by geographical area within the four time windows.

Geographical	SSRI [d]			Others [d]			TCA [d]		
area	HR	95% CI		HR	95% CI		HR	95% CI	
1996-1999									
Capital area	1.00			1.00			1.00		
Southern	0.91	0.88	0.94	0.85	0.80	0.91	1.23	1.16	1.29
Western	0.89	0.86	0.93	0.79	0.73	0.85	1.41	1.33	1.49
Northern/Eastern	0.89	0.85	0.93	1.01	0.93	1.10	1.32	1.24	1.42
2001-2004									
Capital area	1.00			1.00			1.00		
Southern	0.91	0.88	0.94	0.92	0.88	0.97	1.34	1.24	1.44
Western	0.87	0.84	0.90	0.83	0.79	0.88	1.39	1.28	1.50
Northern/Eastern	0.91	0.86	0.97	0.90	0.82	0.98	1.57	1.39	1.78
2005-2008									
Capital area	1.00			1.00			1.00		
Southern	0.89	0.87	0.91	0.95	0.92	0.98	1.12	1.06	1.18
Western	0.87	0.85	0.89	0.92	0.90	0.95	1.19	1.12	1.25
Northern/Eastern	0.87	0.84	0.90	0.98	0.94	1.02	1.06	0.98	1.15
2011-2014									
Capital area	1.00			1.00			1.00		
Southern	0.87	0.85	0.89	0.81	0.79	0.83	0.84	0.78	0.90
Western	0.88	0.86	0.91	0.87	0.85	0.90	0.98	0.92	1.04
Northern/Eastern	0.82	0.79	0.84	0.87	0.85	0.90	0.87	0.81	0.94

[a] Selective serotonin reuptake inhibitors (N06AB); [b] Other antidepressants (N06AX); [c] Tricyclic antidepressants (N06AA); [d] Model adjusted for age, sex, marital status, employment status, education, income, and area-level unemployment (1st year of follow-up)

Table 4. Hazard ratios for newer (SSRI [a] and Others [b]) and older (TCA [c]) antidepressant use by geographical area and level of education within the four time windows.

Geographical area / Level of education	SSRI [d]			Others [d]			TCA [d]		
	HR [a]	95% CI		HR	95% CI		HR	95% CI	
1996-1999									
Capital / High education	1.00			1.00			1.00		
Other [e] / High education	0.99	0.95	1.02	0.92	0.85	1.00	1.03	0.96	1.10
Capital / Low education	0.96	0.92	1.01	0.85	0.77	0.93	1.25	1.16	1.36
Other [e] / Low education	0.87	0.83	0.91	0.75	0.69	0.82	1.33	1.23	1.42
2001-2004									
Capital / High education	1.00			1.00			1.00		
Other [e] / High education	0.96	0.93	0.98	0.96	0.91	1.00	1.01	0.94	1.08
Capital / Low education	0.91	0.88	0.95	0.89	0.85	0.94	1.23	1.13	1.32
Other [e] / Low education	0.81	0.79	0.84	0.81	0.77	0.85	1.31	1.22	1.42
2005-2008									
Capital / High education	1.00			1.00			1.00		
Other [e] / High education	1.00	0.98	1.03	0.98	0.95	1.02	1.08	1.01	1.15
Capital / Low education	0.91	0.89	0.94	0.94	0.91	0.97	1.13	1.05	1.20
Other [e] / Low education	0.86	0.84	0.89	0.91	0.88	0.95	1.28	1.20	1.36
2011-2014									
Capital / High education	1.00			1.00			1.00		
Other [e] / High education	1.02	0.99	1.05	1.00	0.98	1.03	1.10	1.03	1.18
Capital / Low education	0.89	0.87	0.92	0.86	0.84	0.89	0.91	0.85	0.98
Other [e] / Low education	0.88	0.85	0.90	0.84	0.81	0.86	1.01	0.94	1.09

[a] Selective serotonin reuptake inhibitors (N06AB); [b] Other antidepressants (N06AX); [c] Tricyclic antidepressants (N06AA); [d] Model adjusted for age, sex, marital status, employment status, income, and area-level unemployment (1st year of follow-up); [e] Southern, Western and Northern/Eastern Finland combined