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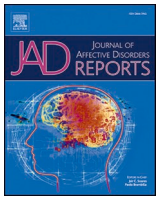

Research Paper

The nature and impact of antidepressant withdrawal symptoms and proposal of the Discriminatory Antidepressant Withdrawal Symptoms Scale (DAWSS)

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ABSTRACT

Background: We sought to understand more about the nature and possible consequences of antidepressant withdrawal.

Methods: We surveyed members of 20 peer-led, online groups, assessing 31 commonly reported antidepressant withdrawal symptoms.

Results: There were 1148 respondents, who were mostly white, female and educated. For 40 % of respondents, withdrawal symptoms had lasted more than 2 years and 80 % were moderately or severely impacted by them. One in four were unable to stop their antidepressant. Reported consequences of withdrawal included impaired work function (56 %), losing jobs (20 %), taking sick leave (27 %), and relationship breakdown (25 %). Both emotional and physical symptoms newly occurred or increased in severity following antidepressant withdrawal compared to before starting antidepressants. There was no difference in the nature of symptoms, severity or duration between people with physical or mental health diagnoses. We have proposed a potential Discriminatory Antidepressant Withdrawal Symptoms Scale (DAWSS), comprising the 15 symptoms most specific to withdrawal (including electric shock sensations, dizziness, akathisia or restlessness, vertigo, and vomiting), which requires further validation.

Limitations: The sample was derived from peer support groups and is not representative of everyone who undergoes antidepressant withdrawal. The cross-sectional design precludes establishing causal relationships between variables.

Conclusions: Our findings suggest there is a distinctive antidepressant withdrawal syndrome characterised by a range of emotional and physical symptoms, which can be severe, prolonged and have profound impact. The DAWSS may be helpful in distinguishing withdrawal from underlying conditions. Health services need to provide evidence-based clinical advice and support to people on long-term antidepressants.

1. Introduction

Unpleasant withdrawal effects from stopping the newer generation antidepressants (SSRIs, SNRIs and other classes of antidepressants) have been reported from the early 1990s (Fava et al., 2015), but it has only been in recent years that increased attention has been paid to the problems people have when stopping these medications (Davies and Read, 2019; Fava et al., 2018, 2015; Horowitz and Taylor, 2022, 2019). The first systematic review to quantify incidence, duration and severity of withdrawal symptoms concluded that about half of patients will experience withdrawal effects, and nearly half of patients in surveys report that their withdrawal effects are 'severe', with some patients reporting symptoms that persisted for months or even years after stopping antidepressants (Davies and Read, 2019; Horowitz et al., 2023). In response to this increased recognition the Royal College of Psychiatrists issued a statement identifying "the potential in some people for severe and long-lasting withdrawal symptoms on and after stopping antidepressants"(Royal College of Psychiatrists, 2019), with NICE updating

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its guidance similarly (Iacobucci, 2019). NHS England has published a commissioning framework calling on health authorities to provide increased services for helping people to safely stop antidepressants (England, n.d.).

Currently, 8.3 million people are given at least one prescription for antidepressants in England annually,("Medicines Used in Mental Health – England – 2015/16 to 2021/22," n.d.). This represents 19 % of the adult population and 23 % of women (England, n.d.), with even higher rates in deprived neighbourhoods (Public Health England, 2019). In the US, during 2015–2018 13.2 % of adults over 18 had used antidepressants in the past 30 days, with women (17.7 %) twice as likely to be prescribed as men (8.4 %) (Brody and Gu, 2020). A significant proportion use these medications long-term (Johnson et al., 2012; Public Health England, 2019), even though long-term use has a weaker evidence base and is associated with significant adverse effects and complications (Dragioti et al., 2019; Horowitz and Wilcock, 2022). Therefore, a large number of people are potentially affected by problems that come with stopping antidepressants. A recent Public Health England report into the issue found that patients report current services are inadequate to help them safely stop antidepressants, and a recommendation was made for the establishment of dedicated services (Public Health England, 2019). One focus of this report was on a group of patients who experience protracted withdrawal symptoms that can last for more than months and can have severe impacts on people's lives (Guy et al., 2020; Hengartner et al., 2020), including both financial and personal losses.

However, several commentators have raised queries regarding withdrawal effects (Jauhar et al., 2019). The first is an assertion that withdrawal effects may in fact be a return of the patient's underlying condition (for example, anxiety or depression) and the patient has mistaken these symptoms for withdrawal symptoms (Jauhar et al., 2019; Jha et al., 2018). The second issue is the question of the significance of withdrawal effects on people's lives. It is still debated whether these symptoms are mostly trivial and transitory or whether they can be severely debilitating as some previous qualitative data has demonstrated (Guy et al., 2020; Marsden et al., 2019; Public Health England, 2019). This second question is of great importance because as the healthcare system is considering what investments to make in helping people to safely stop unnecessary antidepressants (England, n.d.), the scale of the difficulty caused for patients will factor into the deliberations.

We wanted to find out more about the experience of people who have trouble stopping antidepressants and to see if there are symptoms that can help to distinguish between withdrawal and the recurrence of pre-existing conditions. For this purpose we conducted a survey of people who have sought information, support or advice from peer-led online communities. Such groups now include membership of more than 150,000 people and other similar websites receive close to a million hits a month (Read et al., 2023b, 2023a; White et al., 2021).

Objectives:

1. to describe the nature, severity, duration and impact of antidepressant withdrawal symptoms
2. to identify the symptoms which most discriminate between withdrawal effects and patients' pre-existing mental health symptoms
3. to explore predictors of severity and duration of withdrawal, including age, gender, diagnosis (physical disorder only or mental disorder), duration of use of the antidepressant prior to withdrawal, tapering speed, concomitant medication and the type of antidepressant.

2. Methods

2.1. The survey

The 'International Online Survey of Members of Peer Support Groups about their Experiences of Withdrawing from Antidepressants' has been described in previous publications (Read et al., 2023b, 2023a). The study was approved by the University of East London's Research Ethics Sub-Committee (Application ID: ETH2021-0120). All participants granted their consent to be involved in the survey.

The survey was designed to better understand participants' experience of stopping or reducing an antidepressant. Participants were required to be over the age of 18, to have either stopped an antidepressant in the past, to be in the process of trying to do so now or to have attempted to stop in the past but been unable to do so, and to be members of the peer-support sites for antidepressant withdrawal via which the survey was distributed.

Besides demographics, the survey asked a range of questions (with yes/no, multiple choice, or Likert scale responses) covering: characteristics of medication use; why the respondent had tried to withdraw; withdrawal symptoms experienced; symptoms experienced before commencement of antidepressants; and the impact of withdrawal on their lives. There was also a section dedicated to open text responses. The present paper presents details relating to withdrawal symptoms experienced.

A list of 31 common withdrawal symptoms was developed from the Discontinuation Emergent Signs and Symptoms Checklist (DESS) (Rosenbaum et al., 1998), by discussion with experts in the field, following an approach to selecting an abbreviated list from the DESS adopted in a previous study (Duffy et al., 2019). If respondents indicated that they had experienced withdrawal effects they were asked "when trying to withdraw or come off your antidepressant did you experience new onset of, or an increase in" each of these 31 symptoms. They were asked to quantify this as 'no', 'mild', 'moderate' or 'severe' increase. Respondents were also asked to indicate the presence of these symptoms in the weeks before starting antidepressants (including the severity of these symptoms), in order to establish which symptoms preceded antidepressant use.

2.2. Procedures

The administrators of online support groups for people taking antidepressants were asked to advertise the survey to their members. The survey was online for twelve months, from May 2021 to April 2022 (see (Read et al., 2023b) for further details).

2.3. Analysis

Descriptive statistics were used to present the characteristics of the sample, including their experiences of withdrawal symptoms and the duration, impact and consequences of withdrawal. As well as presenting the frequency and severity of individual withdrawal symptoms, we calculated a 'discrimination index' by computing the ratio of the degree of increase following withdrawal to baseline severity preceding antidepressant use. Symptoms showing the highest ratio represent those that are most specific to withdrawal and therefore have the highest discriminatory value when distinguishing withdrawal from the underlying condition. We designated the 15 symptoms with the highest ratios as a 'Discriminatory Antidepressant Withdrawal Symptom Scale' (DAWSS), the aim of which is to distinguish the antidepressant withdrawal syndrome from general mental health problems, including what might be considered to be a relapse of a prior condition. The total of 15 was chosen as a balance between convenience for clinicians and comprehensiveness, reflecting the use of 15 items for an abbreviated version of the DESS used in a large-scale RCT of antidepressant discontinuation (Lewis et al., 2021)).

Characteristics associated with the duration, severity of impact and severity of symptoms were explored using univariate tests, with both duration and severity of impact treated as ordinal variables. Ordinal and linear regression were used to assess the impact of multiple potential predictors that showed statistically significant or trend associations in univariate tests. Differences in symptom profiles between people with

mental and physical diagnoses were explored. All tests were performed using SPSS version 27.

3. Results

3.1. Sample description

A total sample of 1148 individuals who had discontinued or were in the process of discontinuing an antidepressant completed the survey. People who were simultaneously withdrawing from another drug (e.g. a benzodiazepine) were excluded from the larger sample of 1276 people for the purposes of this analysis.

Table 1 shows participant characteristics. They lived in 49 countries across every continent, with about half (53.3 %) living in either the USA (34.6 %) or the UK (18.7 %). Respondents were sampled from 20 different online groups, 19 of which used English language and one that used German (see Read, Moncrieff and Horowitz (2023) for details of the geographical origins of respondents and a list of sites). The average age was 46; 80 % were women; the majority (over 90 %) were white, and 63 % had university level education. More than three quarters (77.2 %) of respondents had been taking an antidepressant for more than a year prior to reducing or stopping, 64.4 % had taken one for more than two years and 43.6 % for more than 5 years. Almost half the sample (45.6 %) were taking, or had taken, an SNRI, and mirtazapine and escitalopram had each been used by more than 10 % of respondents.

Just over half the sample (51.5 %) were in the process of trying to stop an antidepressant. Half had successfully stopped an antidepressant in the past, and 26.3 % had not been able to stop despite trying. These situations were not mutually exclusive. Of those who were currently reducing an antidepressant, 130 had successfully stopped an antidepressant in the past, and 164 had tried but failed to stop in the past.

Half the sample (49.2 %) felt that antidepressants had been helpful while 29.7 % felt they had not been. The most common reasons for wanting to stop antidepressants were side effects, concern about long-term effects and wanting to manage symptoms with non-drug-based methods.

3.2. Withdrawal characteristics

Of the 989 people who responded to the question about whether they experienced withdrawal symptoms, 971 (98.2 %) reported they had experienced them and only 18 (1.8 %) had not. Table 2 shows data on the duration, impact and consequences of withdrawal symptoms. Withdrawal had lasted less than a year for the majority of respondents, but this does not portray the ultimate duration of withdrawal since people completed the survey at different points in their withdrawal journey and many were still in the process of tapering. Withdrawal had lasted longer than a year for 43.3 % of respondents, and for 27.2 % it had lasted longer than two years. Among those who had stopped an antidepressant completely, 49.5 % had had symptoms that persisted for more than a year, 32.2 % for more than two years and 10.7 % for more than five years.

When asked about the severity of the impact of withdrawal symptoms, 61.1 % had been severely affected and over 80 % had been moderately or severely affected.

In response to closed questions, the most common consequence of withdrawal was having to reduce social activities (68.9 %). More than half the respondents (55.7 %) reported impaired functioning at work, with a third (33.1 %) having to reduce work time or responsibilities, over a quarter taking sick leave (26.8 %), and 21.6 % losing a job or having to stop work altogether. Withdrawal problems had led to the breakdown of a relationship for a quarter of respondents (25.3 %), and to discord within the family or close relationships for 40.9 %.

In open text responses 74 respondents volunteered that they had been unable to cope with basic activities of daily life, often requiring to be cared for by other people. Eighteen described how they had been

Table 1
Sample characteristics.

		Number (%)/mean (s.d.) $N = 1148$
Gender ($N = 1147$)	Male	215 (18.7 %)
	Female	919 (80.1 %)
	Non-binary/Other	13 (1.1 %)
Age ($N = 1123$)		45.6 (13.7)
		Range 18 to 85
Education ($N = 1140$)	Did not complete high school	39 (3.4 %)
	Completed high school	384 (33.7 %)
	Undergraduate degree	399 (35 %)
	Post graduate degree	318 (27.9 %)
Ethnic background ($N = 1148$) [not mutually exclusive]	White	1060 (92.3 %)
	Black	17 (1.5 %)
	Asian	31 (2.7 %)
	Hispanic	19 (1.7 %)
	Other/not reported	37 (3.2 %)
Diagnosis[1] ($N = 1148$) [not mutually exclusive]	Depression	675 (58.8 %)
	Anxiety	575 (50.1 %)
	Chronic pain	153 (13.3 %)
	Social anxiety disorder	86 (7.5 %)
	OCD	55 (4.8 %)
	Sleep difficulties*	49 (4.3 %)
	Fibromyalgia*	48 (4.2 %)
	PTSD*	19 (1.7 %)
	Menopause	14 (1.2 %)
	Bipolar disorder*	13 (1.1 %)
	Eating disorders*	12 (1.0 %)
	Migraine*	11 (0.96 %)
	Chronic fatigue*	10 (0.87 %)
	*Not one of the six diagnoses listed in the survey; reported by respondents under 'other diagnosis or health issue'	
Perceptions of the helpfulness of antidepressants (for the original problem) ($N = 1148$)	Antidepressants helped	576 (50.2 %)
	Antidepressants did not help	341 (29.7 %)
	Don't know	231 (20.1 %)
Current antidepressant treatment status[1] ($N = 1148$) [not mutually exclusive]	Currently trying to stop an antidepressant	591 (51.5 %)
	Previously stopped an antidepressant	575 (50.1 %)
	Previously tried to stop but could not	302 (26.3 %)
Current or most recent antidepressant used[1] [$N = 1138$; not mutually exclusive]	Duloxetine	277 (24.3 %)
	Venlafaxine	242 (21.3 %)
	Escitalopram	137 (12.0 %)
	Mirtazapine	136 (12.0 %)
	Sertraline	70 (6.2 %)
	Paroxetine	61 (5.4 %)
	Citalopram	59 (5.2 %)
	Fluoxetine	47 (4.1 %)
	Other	109 (9.6 %)
Duration of prior antidepressant use ($N = 1128$)	Less than 3 months	69 (6.1 %)
	3–6 months	95 (8.4 %)
	7–12 months	93 (8.2 %)
	1–2 years	144 (12.8 %)
	2–5 years	235 (20.8 %)
	5–10 years	202 (17.9 %)
	10–15 years	165 (14.6 %)
	15–20 years	74 (6.6 %)
	>20 years	51 (4.5 %)

(*continued on next page*)

Table 1 (*continued*)

		Number (%)/mean (s.d.) $N = 1148$
Other psychiatric drugs[1,2] ($N = 1148$) [not mutually exclusive]	None	829 (72.2 %)
	Benzodiazepine	136 (11.8 %)
	Gabapentinoid	40 (3.5 %)
	Z drug	37 (3.2 %)
	Antipsychotic	34 (3.0 %)
	Stimulant	27 (2.4 %)
	Non antipsychotic mood stabiliser	20 (1.7 %)
Reasons for wanting to stop an antidepressant[1] ($N = 1148$) [not mutually exclusive]	'Side effects'	651 (56.7 %)
	Concern about long-term effects	508 (44.3 %)
	Prefer non-medication-based ways of managing symptoms	392 (34.1 %)
	The drug did not help	226 (18.7 %)
	Felt well for an extended period	216 (18.8 %)
	The drug no longer worked	209 (18.2 %)
	Switched to a different antidepressant	34 (3.0 %)
	Other	218 (19.0 %)

[1] options are not mutually exclusive so %'s add up to more than 100.
[2] Drugs being taken but not tapered at the same time (patients tapering other drugs were excluded from this analysis).

Table 2
Duration, severity and consequences of withdrawal.

		N (%) Total $N = 1148$
Duration of withdrawal[1] ($N = 933$)	1 month or less	142 (15.2 %)
	> 1 month < 3 months	80 (8.6 %)
	3 to 6 months	181 (19.4 %)
	7–12 months	125 (13.4 %)
	1–2 years	151 (16.2 %)
	2–5 years	178 (19.1 %)
	>5 years	76 (8.1 %)
Duration of withdrawal for those who had stopped ($N = 475$)	1 month or less	55 (11.6 %)
	> 1 month < 3 months	30 (6.3 %)
	3 to 6 months	83 (17.5 %)
	7–12 months	72 (15.2 %)
	1–2 years	82 (17.3 %)
	2–5 years	102 (21.5 %)
	>5 years	51 (10.7 %)
Impact of withdrawal ($N = 973$)	Not affected	8 (0.8 %)
	Mildly affected	51 (5.2 %)
	Moderately affected	212 (21.8 %)
	Severely affected	702 (61.1 %)
Consequences of withdrawal ($N = 1148$) [not mutually exclusive]	Reduced social activities	791 (68.9 %)
	Impaired work function	640 (55.7 %)
	Family discord	469 (40.9 %)
	Reduced work time or responsibilities	380 (33.1 %)
	Took sick leave	308 (26.8 %)
	Relationship breakdown	291 (25.3 %)
	Left or lost job	248 (21.6 %)
	Physical accidents	147 (12.8 %)

[1] many respondents were still in the process of withdrawal or had withdrawn recently, therefore this only represents the duration of symptoms at the point at which the survey was taken.

'bedridden'. The development of agoraphobia or social withdrawal following antidepressant withdrawal was mentioned by 22 participants.

Many respondents described how withdrawal effects had been life-changing. Verbatim comments indicated that withdrawal had 'ruined my life and still is'; 'permanently changed my life'; 'made my life hell'; created '9 years in hell with ups and downs'; and caused a 'total life breakdown'. People described how their lives 'totally stopped' and how they were 'unable to cope with normal daily responsibilities'. Some had missed out on time with their children, had had to give up careers and shut down businesses and lost confidence and self- esteem. Some ended up socially isolated and 'reclusive'.

3.3. Withdrawal symptoms

Table 3 shows the proportion of respondents endorsing individual withdrawal symptoms, their mean severity prior to starting antidepressants (scored out of 3, with 0 = not present, 1 = mild, 2 = moderate and 3 = severe), and the degree to which they increased following withdrawal (scored out of 3, with 0 = not present, 1 = mild increase, 2 = moderate increase and 3 = severe increase). All symptoms newly occurred or increased in severity following antidepressant withdrawal, whereas before starting antidepressants symptoms were mostly absent or mild (Table 3; Figs. 1a and b). The mean number of symptoms reported as having increased to any degree following withdrawal was 19.1 (s.d. 10.0). The mean number of symptoms of at least mild severity reported prior to starting an antidepressant was 8.0 (s.d. 6.7). The mean total score for the severity of increase of all symptoms following withdrawal was 48.8 (s.d. 18.3) out of a maximum of 93. The mean severity score of symptoms prior to starting antidepressants was 15.3 (s.d. 12.3) out of 93.

Anxiety and worsened mood were among the most common symptoms following withdrawal, but physical symptoms, including specific symptoms such as dizziness, increased sensitivity, electric shock sensations, muscle symptoms (including cramps and tics), vivid dreams, vertigo, nausea and palpitations newly occurred or worsened in more than 70 % of the sample. 60.7 % of patients reported an increase in suicidality after reducing or stopping antidepressants, whereas only 29.6 % of respondents reported any suicidality in the weeks before starting an antidepressant.

The ten symptoms that showed the highest 'discrimination index' (the ratio of increase following withdrawal compared to pre-withdrawal levels) were, in order of magnitude: electric shock sensations, akathisia, dizziness, vomiting, vertigo, nausea, gait and coordination problems, increased sensitivity to light and noise, tinnitus, and psychotic symptoms. The fifteen most discriminatory symptoms that comprise the 'Discriminatory Antidepressant Withdrawal Symptom Scale' (DAWSS) are displayed in Table 4.

3.4. Predictors of severity and duration of withdrawal symptoms

Table 5 shows the analysis of the potential predictors of the severity, impact and duration of withdrawal symptoms. The latter analysis was conducted among those who had stopped an antidepressant, excluding people still in the process of tapering. We investigated the effects of age, gender, duration of prior use of the antidepressant, diagnosis (physical health diagnosis only versus a mental health diagnosis with or without a physical diagnosis), being prescribed another drug with prominent psychoactive effects (other psychiatric drugs and opioids), rate of tapering and the type of antidepressant used (grouped into antidepressants known to be associated with a high risk of withdrawal - paroxetine and the SNRIs - versus others). Univariate analyses are presented in Table 5.

Only gender was statistically significantly related to severity in a multivariate ordinal regression inputting all variables showing statistically significant or trend level associations in univariate testing (Table 5). Men reported greater impact. The assumption of proportional odds was borderline (test of parallel lines, $p = 0.06$) and the overall model was a good fit ($p < 0.026$).

Severity of withdrawal symptoms as measured by the total symptom score was independently and inversely associated with age and with

Table 3
withdrawal symptoms, frequency, severity prior to starting antidepressants and degree of increase following withdrawal.

	People experiencing any severity of this symptom in the weeks before starting antidepressants, N (%) (Total $N = 1148$)	People experiencing an onset or increase of this symptom following withdrawal, N (%) (Total $N = 1148$)	Severity score prior to starting antidepressants, mean (s.d.)	Degree of increase following withdrawal (mean, s.d.)	Discrimination index: Ratio of baseline severity to increase after withdrawal
Anxiety/nervousness	732/950 (77.1 %)	899/962 (93.5 %)	1.43 (1.02)	2.35 (0.93)	1.64
Fatigue/reduced stamina	582/946 (61.5 %)	891/956 (93.2 %)	1.02 (1.0)	2.23 (0.94)	2.19
Impaired concentration ('brain fog')	390/942 (41.4 %)	890/957 (93.0 %)	0.67 (0.92)	2.15 (0.94)	3.21
Worsened mood	541/944 (57.3 %)	890/951 (92.5 %)	1.05 (1.07)	2.23 (0.96)	2.12
Agitation	418/941 (44.4 %)	850/953 (89.2 %)	0.69 (0.90)	1.98 (1.02)	2.87
Dizziness/light-headedness	170/951 (17.9 %)	845/953 (88.7 %)	0.26 (0.62)	2.01 (1.03)	7.73
Insomnia	505/938 (53.8 %)	833/943 (88.3 %)	0.98 (1.08)	2.06 (1.05)	2.1
Memory problems	345/941 (36.7 %)	832/944 (88.1 %)	0.54 (0.82)	1.90 (1.02)	3.52
Irritability	448/937 (47.8 %)	839/952 (88.1 %)	0.67 (0.82	1.90 (1.02)	2.84
Bouts of crying	503/948 (53.1 %)	800/947 (84.5 %)	0.94 (1.05)	1.92 (1.11)	2.04
Mood swings	454/932 (48.7 %)	788/943 (83.6 %)	0.73 (0.88)	1.92 (1.01)	2.63
Increased sensitivity (to light, noise etc.)	208/932 (22.3 %)	751/948 (79.2 %)	0.33 (0.71)	1.68 (1.13)	5.09
Anger	324/938 (34.5 %)	745/950 (78.4 %)	0.54 (0.84)	1.67 (1.14)	3.09
Depersonalisation/ derealisation	307/940 (32.7 %)	731/944 (77.4 %)	0.54 (0.88)	1.73 (1.18)	3.2
Headache	314/937 (33.5 %)	727/944 (77.0 %)	0.49 (0.80)	1.54 (1.01)	3.14
Electric shocks ('brain zaps')	52/941 (5.6 %)	733/954 (76.8 %)	0.10 (0.43)	1.79 (1.2)	17.9
Emotional numbing (Decreased emotional range/reduced motivation/ reward)	397/933 (42.6 %)	702/948 (74.1 %)	0.72 (0.97)	1.61 (1.18)	2.24
Muscular problems (cramps, twitches, spasm, pain)	214/931 (23.0 %)	696/945 (73.7 %)	0.33 (0.89)	1.52 (1.15)	4.61
Gait and coordination problems	153/939 (16.3 %)	680/944 (72.0 %)	0.23 (0.59)	1.38 (1.1)	6
Diarrhoea	226/927 (24.4 %)	697/946 (73.7 %)	0.31 (0.61)	1.45 (1.13)	4.68
Vivid dreams	259/929 (27.9 %)	695/947 (73.4 %)	0.41 (0.76)	1.53 (1.15)	3.73
Palpitations	227/930 (24.4 %)	691/945 (73.1 %)	0.35 (0.71)	1.45 (1.11)	4.14
Vertigo	128/935 (13.7 %)	688/946 (72.7 %)	0.20 (0.55)	1.41 (1.12)	7.05
Nausea	143/938 (15.2 %)	672/945 (71.1 %)	0.22 (0.60)	1.39 (1.21)	6.32
Reduced libido/ reduced sensitivity/ absent orgasm/ unpleasant genital tingling	263/930 (28.3 %)	625/946 (66.1 %)	0.47 (0.86)	1.39 (1.21)	2.96
Akathisia/ internal sensation of buzzing or tension causing need to move	102/930 (11 %)	599/943 (63.5 %)	0.16 (0.52)	1.25 (1.16)	7.81
Feeling suicidal	277/936 (29.6 %)	577/950 (60.7 %)	0.49 (0.87)	1.31 (1.24)	2.67
Tinnitus	163/928 (17.6 %)	570/939 (60.7 %)	0.24 (0.58)	1.22 (1.19)	5.08
Elevated mood	163/932 (17.5 %)	294/952 (31.5 %)	0.26 (0.61)	0.56 (0.93)	2.15
Vomiting	40/932 (4.3 %)	263/933 (28.8 %)	0.07 (0.38)	0.51 (0.93)	7.29
Psychotic symptoms	55/929 (5.9 %)	240/934 (25.7 %)	0.09 (0.42)	0.44 (0.86)	4.89
Total number of symptoms (mean, s.d.)			8.0 (6.7) $N = 1148$	19.1 (10.0) $N = 1148$	2.39
Total score*			15.3 (12.3) $N = 878$	48.8 (18.3) $N = 848$	3.19

* Total score was only calculated for people who provided information for all 31 symptoms.

being on a 'high risk' antidepressant in multiple linear regression. The model explained only a small amount of the total variance, however (R^2=0.013).

Ordinal regression revealed that older age, longer duration of prior use and not being prescribed other drugs were all independently associated with longer duration of withdrawal symptoms (duration of prior use was entered as a continuous variable for ease of interpretation given the number of categories, but results were the same when it was entered as an ordinal variable). The test of parallel lines confirmed that the assumption of proportional odds was satisfied ($p = 0.49$) and the model was a good fit ($p < 0.001$).

Notably, whether respondents were prescribed antidepressants for a physical health problem only or a mental health condition (with or without a physical health condition) was not associated with severity of impact, severity of withdrawal symptoms or duration of withdrawal (Table 5). Additionally, physical diagnosis only or mental health diagnosis (with or without a physical health condition) was not related to the level of increase of each of the nine psychological symptoms of withdrawal, after controlling for the effects of age, gender and antidepressant risk category (which varied between the diagnostic groups) (Table S1).

4. Discussion

The current sample is drawn from peer-support websites designed to support people who are withdrawing from antidepressants and as such do not represent the average experience of stopping antidepressants. However, such websites have tens of thousands of members, mostly concentrated in western, English-speaking countries, and so members' experiences are not unusual.

Prior to reducing or stopping, participants had been taking antidepressants for about the same duration as the US population in 2011–2014, when 68.0 % of people taking antidepressants had used them for more than 2 years, and 44.3 % had used for over five years (Pratt et al., 2017). The proportion of long-term users in our sample was slightly higher than a previous estimate for the British population in

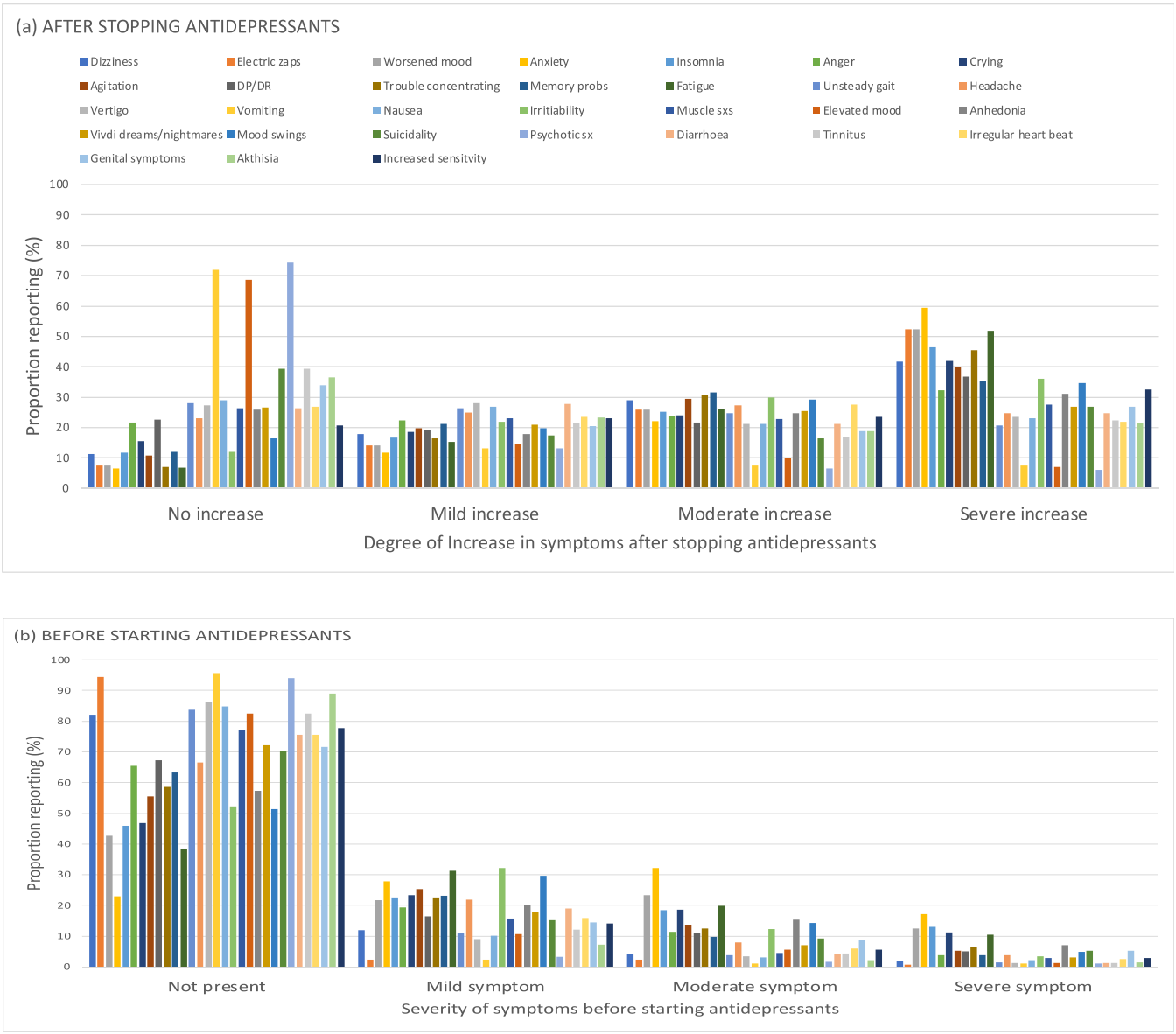

Fig. 1. a) Degree of increase in severity of selected DESS symptoms reported by respondents after reduction or cessation of antidepressants. b) Degree of severity of symptoms reported by respondents before starting antidepressants (the symptoms which prompted initiation of an antidepressant).

which 50 % of users had used antidepressants for more than two years (Johnson et al., 2012). This is not surprising given the association between longer-term use and withdrawal effects, which is likely to have prompted joining these groups in the first place. In the current study, people wanted to stop their antidepressants due to adverse effects and fear of long-term complications, as well as preferring to manage their problems in other ways. Similarly, in a New Zealand survey, of 459 people who had successfully withdrawn from antidepressants the most common reason for wanting to stop (47 %) was 'unpleasant side effects' (Read et al., 2014).

There has been debate in the literature, and amongst clinicians, regarding whether the symptoms people experience after stopping antidepressants are withdrawal effects or a return of an underlying condition (Jauhar et al., 2019). Our study suggests there is a distinctive pattern of new and increased symptoms following antidepressant withdrawal, including many physical symptoms not characteristic of common mental health problems, and that these can be severe and protracted for some people. Our findings are consistent with research looking at a smaller range of withdrawal symptoms (Shapiro et al. 2023).

Half the participants in our study who had stopped antidepressants had experienced withdrawal symptoms that lasted for over a year, around a third for more than two years and 10 % for more than five years. One in four participants had tried to stop an antidepressant in the past and had not been able to do so. Impairment of the ability to work was common, including having to reduce hours, take sick leave or stop work altogether. Family and relationship problems and having to give up social activities were also frequently reported. Free text answers revealed that some people had suffered significant disability and distress. Other studies of patients suffering with antidepressant-related protracted withdrawal also record profound impairments in social and occupational domains, but these studies have not analysed symptoms in the same detail as the current study (Guy et al., 2020; Hengartner et al., 2020). Similar impacts have been reported after benzodiazepine withdrawal (Huff et al., 2023; Reid Finlayson et al., 2022).

The withdrawal syndrome was most commonly manifested in emotional symptoms such as anxiety and worsened mood, but over 75 % of respondents reported several cognitive and physical symptoms not

Table 4
Proposal of the Discriminatory Antidepressant Withdrawal Symptom Scale (DAWSS). This is composed of the 15 symptoms that differed most markedly in incidence and severity after reducing or stopping antidepressants compared to symptoms experienced before starting them. An example layout is provided for use in clinical practice. Note that this scale does not include some of the most common symptoms of withdrawal (emotional symptoms) and is therefore not intended as a scale to exclude withdrawal, but as an instrument to help differentiate difficult cases. It requires further validation in independent samples.

	Most discriminatory symptoms	Present in the weeks before starting antidepressants (tick relevant column for each symptom)				New onset or increase in this symptom after stopping or reducing antidepressant (tick relevant column for each symptom)			
		None	Mild	Moderate	Severe	Not present	Mild increase	Moderate increase	Severe increase
1	Electric shocks ('brain zaps')								
2	Akathisia/ internal sensation of buzzing or tension causing need to move								
3	Dizziness/light -headedness								
4	Vomiting								
5	Vertigo								
6	Nausea								
7	Gait and coordination problems								
8	Increased sensitivity (to light, noise etc)								
9	Tinnitus								
10	Psychotic symptoms								
11	Diarrhoea								
12	Muscular problems (cramps, twitches, spasm, pain)								
13	Palpitations								
14	Vivid dreams								
15	Memory problems								

usually associated with depression or anxiety. Dizziness, increased sensitivity to light and noise, cognitive symptoms (impaired concentration and memory problems), depersonalisation and derealisation, headache, and electric shocks (or 'brain zaps') were reported by over 75 % of respondents during the process of withdrawal. We have proposed a 'Discriminatory Antidepressant Withdrawal Symptom Scale' (DAWSS) consisting of the fifteen symptoms that most strongly discriminated between symptoms experienced prior to starting antidepressants and those experienced after stopping them. These could be useful to distinguish withdrawal from relapse of the underlying condition. However, although potentially useful for discrimination in cases of uncertainty between withdrawal and relapse, it should not be considered a scale to exclude a diagnosis of withdrawal, since an increase in emotional symptoms were amongst the most common experiences in withdrawal, and so a withdrawal syndrome composed mostly of emotional symptoms may be missed if this scale is employed. Further testing of this scale is required in other samples to validate this scale.

Shapiro et al. (2023) identified anxiety, brain zaps, dizziness and agitation/irritability as the symptoms that showed the greatest increase following withdrawal, but they only investigated nine pre-selected symptoms overall, and their comparison was people's symptoms prior to withdrawal, rather than their symptoms prior to starting antidepressants as we assessed. Therefore the symptoms they identified do not necessarily differentiate withdrawal from relapse, but compare withdrawal symptoms to what is presumably usually a stable mental state prior to withdrawal.

Further support for the existence of a withdrawal syndrome that is distinct from the underlying condition lies in the finding that there was no difference between people who were prescribed antidepressants for a physical health condition only and those with a mental disorder diagnosis in the severity, duration or impact of symptoms experienced on stopping antidepressants. That there was no difference in the severity of nine psychological or emotional symptoms of withdrawal – such as anxiety and depressed mood - between these two groups also provides evidence that the withdrawal syndrome involves psychological symptoms. This is consistent with other studies in which either healthy volunteers or people prescribed antidepressants for reasons other than mental health conditions (e.g. for the menopause) also experienced

Table 5
Multiple regression of potential predictor of severity or overall severity of impact of withdrawal, severity and duration of withdrawal symptoms.

	Severity of impact Univariate tests	Ordinal multiple regression
Age	Spearman's rho=−0.04, $p = 0.22$; $N = 1123$	n.s.
Gender (male vs female)	Pearson Chi-Square 10.47 (d.f. 3) $p = 0.015$*; $N = 961$	$\beta = 0.72$ (95 % CI 0.25, 1.18), $p = 0.003$**
Diagnosis (physical diagnosis only vs mental health diagnosis)	Pearson Chi-Square 2.20 (d.f. 3) $p = 0.53$; $N = 965$	n.s.
Duration of prior use (in ranked categories)	Spearman's rho=−0.062, $p = 0.055$; $N = 973$	n.s.
Type of antidepressant (high risk vs lower risk)	Pearson Chi-Square 7.35 (d.f. 3) $p = 0.062$; $N = 973$	n.s.
Prescribed other drugs (relevant drugs# vs no relevant drugs)	Pearson Chi-Square 1.06 (d.f. 3) $p = 0.79$; $N = 973$	n.s.
Tapering speed	Spearman's rho=−0.065, $p = 0.087$; $N = 1128$	n.s.
	Severity of symptoms (total score) Univariate tests	Multiple linear regression
Age	Pearson R^2=−0.072, $p = 0.037$*, $N = 833$	B=−0.12 (−0.08 to −2.28), $p = 0.023$*
Gender (male vs female)	$t = 0.45$ (d.f. 835), $p = 0.66$	n.s.
Diagnosis (physical diagnosis only vs mental health diagnosis)	$t = 0.25$ (d.f. 840), $p = 0.80$	n.s.
Duration of prior use (in ranked categories)	Spearman R^2=0.04, $p = 0.25$, $N = 841$	n.s.
Type of antidepressant (high risk vs lower risk)	$t = 2.20$ (d.f. 846), $p = 0.028$*	$B = 3.15$ (0.086 to 2.48) $p = 0.013$*
Prescribed other drugs (relevant drugs# vs no relevant drugs)	$t = 1.12$ (d.f. 846), $p = 0.26$	n.s.
Tapering speed	Pearson R^2=−0.021, $p = 0.61$, $N = 615$	n.s.
	Duration of symptoms# ($N = 475$ who had completely stopped an antidepressant at some point) Univariate tests	Multiple ordinal regression
Age	Spearman's rho=0.234, $p < 0.001$***; $N = 465$	$\beta = 0.028$ (95 %CI 0.016 to 0.040) $P < 0.001$***
Gender (male vs female)	Pearson Chi-Square 7.23 (d.f. 6) $p = 0.30$; $N = 467$	n.s.
Diagnosis (physical diagnosis only vs mental health diagnosis)	Pearson Chi-Square 9.47 (d.f. 6) $p = 0.15$; $N = 469$	n.s.
Duration of prior use (in ranked categories)	Spearman's rho=0.206, $p < 0.001$***; $N = 470$	β= 0.126 (95 %CI 0.046 to 0.207) $P = 0.002$**
Type of antidepressant (high risk vs lower risk)	Pearson Chi-Square 9.02 (d.f. 6) $p = 0.17$; $N = 475$	n.s.
Prescribed other drugs (relevant drugs## vs no relevant drugs)	Pearson Chi-Square 12.35 (d.f. 6) $p = 0.055$*; $N = 475$	β= 0.645 (95 %CI 0.264 to 1.025) $P < 0.001$***
Tapering speed	Spearman's rho=−0.08, $p = 0.14$; $N = 370$	n.s.

duration of withdrawal was categorised in seven categories as shown in Table 2.

a relevant drug was defined as another drug prescribed for mental health problems or a drug of a different type associated with dependency and withdrawal (e.g. an opiate)

n.s. = not significant,.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

withdrawal symptoms on stopping, including psychological symptoms of withdrawal (Bloch et al., 1995; Gallagher et al., 2012).

The current data suggests that men might be more likely to be severely affected by withdrawal than women, although an alternative explanation is that men who join such sites have particularly severe symptoms. Other analyses have found no difference between genders (Read et al., 2018, 2014), or that withdrawal symptoms are more common in women (van Os and Groot, 2023). People taking high risk antidepressants had more severe symptoms overall, which is consistent with previous analyses which have found that SNRIs and paroxetine are associated with a much greater likelihood of reporting withdrawal effects in adverse effect databases than other antidepressants (Gastaldon et al., 2022). In contrast to our finding that younger people had more severe symptoms, older people reported the longest duration of withdrawal, which may reflect that older people are more vulnerable to the physiological disruption caused by withdrawal and take longer to recover, however in other analyses age was unrelated to withdrawal effects (Read et al., 2018, 2014).

Longer duration of prior use predicted longer duration of withdrawal symptoms among those who had already stopped an antidepressant, which is consistent with other findings (Horowitz et al., 2023; Read et al., 2014). This association is plausible because longer term use leads to greater neuro-adaptations which take longer to resolve after cessation, leading to longer lasting withdrawal effects (Horowitz et al., 2023). The association between longer duration of withdrawal symptoms and not taking other drugs is difficult to interpret but may reflect the 'buffering' effects of taking other psychoactive substances.

The clinical implications of the present study are that antidepressant withdrawal can be a difficult process resulting in prolonged symptoms that can severely impact people's lives. The finding that more than half the sample reported increased suicidal thoughts underlines the potential risks. Slow tapering has been proposed to minimise the negative consequences of withdrawal (Cooper et al., 2023; Horowitz and Taylor, 2023; McDonald et al., 2023; Wallis et al., 2023), although there was no association between tapering speed and severity or duration of withdrawal in our data. Health professionals need to be aware of the possible outcomes of antidepressant withdrawal so that they can help people to make properly informed decisions about taking antidepressants and provide support to those who decide to stop them.

4.1. Limitations

The fact that the sample was drawn from websites for withdrawal explains why withdrawal symptoms were even more common and more severe than found in reviews of studies conducted in mixed populations (Davies and Read, 2019). Our findings are similar to those reported by Shapiro et al. who also found marked differences between symptoms reported after stopping antidepressants compared to before stopping them in a similar cohort (Shapiro et al., 2023). Although it might be assumed that people with an overall negative experience of antidepressants may have been particularly attracted to our survey, only 30 % of our sample perceived antidepressants as having negative effects. The sharing of information on online sites may alert people to withdrawal symptoms they might not previously have been aware of, but 'contagion' effects may also operate whereby people interpret their experiences through the prism of other people's. However, it is likely that the experience of withdrawal effects would have prompted people to look for these websites in the first place.

Our sample was predominantly white, female, and educated. Notably, in the UK women are 50 % more likely to be prescribed antidepressants than men, and Caucasians are more likely to be taking antidepressants than minority ethnicities, suggesting our population might be representative (Public Health England, 2019). However, our sample was highly educated, whereas antidepressant prescriptions increase with quintile of social deprivation in England (Public Health England, 2019). Black, Asian and other minority ethnic groups were clearly

underrepresented. Reported duration of withdrawal symptoms is likely to underestimate the ultimate duration because we could only ask about duration up until the time the survey was taken, which might have been at any point during the individual's withdrawal history (for example a few days after withdrawal), and for most people in online groups, withdrawal is an ongoing experience (Guy et al., 2020; Hengartner et al., 2020).

Tapering speed did not associate strongly with withdrawal effects – this may be due to the opposing effects of slow tapering producing lower levels of symptoms in some people, but in others being the result of reverse causality, whereby people who experienced severe withdrawal effects were compelled to taper more slowly. Although respondents with physical health diagnoses only showed similar withdrawal symptom characteristics to those with mental health diagnoses, the sample with only physical health diagnoses was relatively small, and an alternative explanation is that people with physical health diagnoses may be prone to develop a mental health condition or that some physical symptoms may be consequences of underlying mental health problems.

5. Conclusion

Our findings point to the existence of a genuine withdrawal syndrome associated with antidepressants, which can cause severe symptoms, be long-lasting and have a profound impact on people's lives. The DAWSS scale might help to distinguish withdrawal from relapse of the underlying condition, but should not be considered adequate to exclude a diagnosis of withdrawal as it excludes some of the most common withdrawal symptoms. Health professionals need to be aware of the potential significance of antidepressant withdrawal to support people with clinical decision making and during the process of withdrawal itself.

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Ethical approval

The study was approved by the University of East London's Research Ethics Sub-Committee (Application ID: ETH2021-0120).

CRediT authorship contribution statement

Joanna Moncrieff: Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **John Read:** Writing – review & editing, Supervision, Software, Resources, Project administration, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Mark Abie Horowitz:** Writing – review & editing, Validation, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

JR has no conflicts of interest. JM and MAH are collaborating investigators on the NHMRC and MRFF funded RELEASE and RELEASE+ trials in Australia investigating supported, hyperbolic tapering of antidepressants. MAH is a co-founder of Outro Health, a digital clinic which aims to help people who wish to stop no longer needed antidepressant medication in North America using supported, hyperbolic tapering. MAH has received honoraria for lectures on deprescribing from NHS Trusts, Washington University and the University of Arizona. JM is a co-investigator on a National Institute of Health Research (NIHR) funded study exploring methods of antidepressant discontinuation (REDUCE). She collects royalties from three books on psychiatric drugs.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.jadr.2024.100765.

References

Bloch, M., Stager, S.V., Braun, A.R., Rubinow, D.R., 1995. Severe psychiatric symptoms associated with paroxetine withdrawal. Lancet 346, 57.

Brody, D., Gu, Q., 2020. Antidepressant Use Among Adults: United States, 2015-2018. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/products/databriefs/db377.htm. accessed 10.13.22.

Cooper, R.E., Ashman, M., Lomani, J., Moncrieff, J., Guy, A., Davies, J., Morant, N., Horowitz, M., 2023. Stabilise-reduce, stabilise-reduce": a survey of the common practices of deprescribing services and recommendations for future services. PLoS One 18, e0282988.

Davies, J., Read, J., 2019. A systematic review into the incidence, severity and duration of antidepressant withdrawal effects: are guidelines evidence-based? Addict. Behav. 97, 111–121.

Dragioti, E., Solmi, M., Favaro, A., Fusar-Poli, P., Dazzan, P., Thompson, T., Stubbs, B., Firth, J., Fornaro, M., Tsartsalis, D., Carvalho, A.F., Vieta, E., McGuire, P., Young, A. H., Shin, J.I., Correll, C.U., Evangelou, E., 2019. Association of antidepressant use with adverse health outcomes: a systematic umbrella review. JAMA Psychiatry 76, 1241–1255.

Duffy, L., Bacon, F., Clarke, C.S., Donkor, Y., Freemantle, N., Gilbody, S., Hunter, R., Kendrick, T., Kessler, D., King, M., Lanham, P., Lewis, Gemma, Mangin, D., Marston, L., Moore, M., Nazareth, I., Wiles, N., Lewis, Glyn, 2019. A randomised controlled trial assessing the use of citalopram, sertraline, fluoxetine and mirtazapine in preventing relapse in primary care patients who are taking long-term maintenance antidepressants (ANTLER: ANTidepressants to prevent reLapse in dEpRes. Trials 20, 319.

England, N.H.S., n.d. Optimising personalised care for adults prescribed medicines associated with dependence or withdrawal symptoms: framework for action for integrated care boards (ICBs) and primary care [WWW Document]. https://www.england.nhs.uk/long-read/optimising-personalised-care-for-adults-prescribed-medicines-associated-with-dependence-or-withdrawal-symptoms/(accessed 5.29.23).

Fava, G.A., Benasi, G., Lucente, M., Offidani, E., Cosci, F., Guidi, J., 2018. Withdrawal symptoms after serotonin-noradrenaline reuptake inhibitor discontinuation: systematic review. Psychother. Psychosom. 87, 195–203.

Fava, G.A., Gatti, A., Belaise, C., Guidi, J., Offidani, E., 2015. Withdrawal symptoms after selective serotonin reuptake inhibitor discontinuation: a systematic review. Psychother. Psychosom. 84, 72–81.

Gallagher, J.C., Strzinek, R.A., Cheng, R.-F.J., Ausmanas, M.K., Astl, D., Seljan, P., 2012. The effect of dose titration and dose tapering on the tolerability of desvenlafaxine in women with vasomotor symptoms associated with menopause. J. Womens Health 21, 188–198.

Gastaldon, C., Schoretsanitis, G., Arzenton, E., Raschi, E., Papola, D., Ostuzzi, G., Moretti, U., Seifritz, E., Kane, J.M., Trifirò, G., Barbui, C., 2022. Withdrawal syndrome following discontinuation of 28 antidepressants: pharmacovigilance analysis of 31,688 reports from the WHO spontaneous reporting database. Drug Saf. 45, 1539–1549.

Guy, A., Brown, M., Lewis, S., Horowitz, M.A., 2020. The "Patient Voice" - patients who experience antidepressant withdrawal symptoms are often dismissed, or misdiagnosed with relapse, or onset of a new medical condition. Ther. Adv. Psychopharmacol. 10, 204512532096718.

Hengartner, M.P., Schulthess, L., Sorensen, A., Framer, A., 2020. Protracted withdrawal syndrome after stopping antidepressants: a descriptive quantitative analysis of consumer narratives from a large internet forum. Ther. Adv. Psychopharmacol. 10, 2045125320980573.

Horowitz, M., Wilcock, M., 2022. Newer generation antidepressants and withdrawal effects: reconsidering the role of antidepressants and helping patients to stop. Drug Ther. Bull. 60, 7–12.

Horowitz, M.A., Framer, A., Hengartner, M.P., Sørensen, A., Taylor, D., 2023. Estimating risk of antidepressant withdrawal from a review of published data. CNS Drugs 37, 143–157.

Horowitz, M.A., Taylor, D., 2023. Case-based learning: safe withdrawal and tapering of antidepressants. Pharm. J. https://pharmaceutical-journal.com/article/ld/case-based-learning-safe-withdrawal-and-tapering-of-antidepressants accessed 10.6.23.
Horowitz, M.A., Taylor, D., 2022. Distinguishing relapse from antidepressant withdrawal: clinical practice and antidepressant discontinuation studies. BJPsych Adv. 28, 297–311.
Horowitz, M.A., Taylor, D., 2019. Tapering of SSRI treatment to mitigate withdrawal symptoms. Lancet Psychiatry 6, 538–546.
Huff, C., Finlayson, A.J.R., Foster, D.E., Martin, P.R., 2023. Enduring neurological sequelae of benzodiazepine use: an Internet survey. Ther. Adv. Psychopharmacol. 13, 20451253221145560.
Iacobucci, G., 2019. NICE updates antidepressant guidelines to reflect severity and length of withdrawal symptoms. BMJ 367, l6103.
Jauhar, S., Hayes, J., Goodwin, G.M., Baldwin, D.S., Cowen, P.J., Nutt, D.J., 2019. Antidepressants, withdrawal, and addiction; where are we now? J. Psychopharmacol. 33, 655–659.
Jha, M.K., Rush, A.J., Trivedi, M.H., 2018. When discontinuing SSRI antidepressants is a challenge: management tips. Am. J. Psychiatry 175, 1176–1184.
Johnson, C.F., Macdonald, H.J., Atkinson, P., Buchanan, A.I., Downes, N., Dougall, N., 2012. Reviewing long-term antidepressants can reduce drug burden: a prospective observational cohort study. Br. J. Gen. Pract. 62, e773–e779.
Lewis, Gemma, Marston, L., Duffy, L., Freemantle, N., Gilbody, S., Hunter, R., Kendrick, T., Kessler, D., Mangin, D., King, M., Lanham, P., Moore, M., Nazareth, I., Wiles, N., Bacon, F., Bird, M., Brabyn, S., Burns, A., Clarke, C.S., Hunt, A., Pervin, J., Lewis, Glyn, 2021. Maintenance or discontinuation of antidepressants in primary care. N. Engl. J. Med. 385, 1257–1267.
Marsden, J., White, M., Annand, F., Burkinshaw, P., Carville, S., Eastwood, B., Kelleher, M., Knight, J., O'Connor, R., Tran, A., Willey, P., Greaves, F., Taylor, S., 2019. Medicines associated with dependence or withdrawal: a mixed-methods public health review and national database study in England. Lancet Psychiatry 6, 935–950.
McDonald, S., Wallis, K.A., Horowitz, M., Mann, E., Le, V., Donald, M., 2023. Acceptability and optimisation of resources to support antidepressant cessation: a qualitative think-aloud study with patients. Br. J. Gen. Pract. BJGP, 2023.0269.
Medicines Used in Mental Health – England 2015 16 to 2021/22 [WWW Document], n.d. https://www.nhsbsa.nhs.uk/statistical-collections/medicines-used-mental-health-england/medicines-used-mental-health-england-201516-202122 (accessed 8.17.23).
Pratt, L.A., Brody, D.J., Gu, Q., 2017. Antidepressant use among persons aged 12 and over: United States,2011-2014. NCHS Data Brief 1–8.
Public Health England, 2019. Dependence and withdrawal associated with some prescribed medicines. An evidence review [WWW Document]. https://www.gov.uk/government/publications/prescribed-medicines-review-report (accessed 5.25.21).
Read, J., Cartwright, C., Gibson, K., 2018. How many of 1829 antidepressant users report withdrawal effects or addiction? Int. J. Ment. Health Nurs. 27, 1805–1815.
Read, J., Cartwright, C., Gibson, K., 2014. Adverse emotional and interpersonal effects reported by 1829 New Zealanders while taking antidepressants. Psychiatry Res. 216, 67–73.
Read, J., Lewis, S., Horowitz, M., Moncrieff, J., 2023a. The need for antidepressant withdrawal support services: recommendations from 708 patients. Psychiatry Res.
Read, John, Moncrieff, J., Horowitz, M.A., 2023b. Designing withdrawal support services for antidepressant users: patients' views on existing services and what they really need. J. Psychiatr. Res. 161, 298–306.
Reid Finlayson, A.J., Macoubrie, J., Huff, C., Foster, D.E., Martin, P.R., 2022. Experiences with benzodiazepine use, tapering, and discontinuation: an Internet survey. Ther. Adv. Psychopharmacol. 12, 20451253221082384.
Rosenbaum, J.F., Fava, M., Hoog, S.L., Ascroft, R.C., Krebs, W.B., 1998. Selective serotonin reuptake inhibitor discontinuation syndrome: a randomized clinical trial. Biol. Psychiatry 44, 77–87.
Royal College of Psychiatrists, 2019. Position statement on antidepressants and depression [WWW Document]. https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/position-statements/ps04_19—antidepressants-and-depression.pdf?sfvrsn=ddea9473_5 (accessed 1.18.23).
Shapiro, B., Kramer, E., Khoury, D., Preda, A., 2023. Establishing core symptoms of acute serotonin reuptake inhibitor withdrawal: results from an international survey of online peer-support communities. Pharmacopsychiatry. https://doi.org/10.1055/a-2078-4593.
van Os, J., Groot, P.C., 2023. Outcomes of hyperbolic tapering of antidepressants. Ther. Adv. Psychopharmacol. 13, 20451253231171520.
Wallis, K.A., Donald, M., Horowitz, M., Moncrieff, J., Ware, R.S., Byrnes, J., Thrift, K., Cleetus, M., Panahi, I., Zwar, N., Morgan, M., Freeman, C., Scott, I., 2023. RELEASE (REdressing Long-tErm Antidepressant uSE): protocol for a 3-arm pragmatic cluster randomised controlled trial effectiveness-implementation hybrid type-1 in general practice. Trials 24, 615.
White, E., Read, J., Julo, S., 2021. The role of Facebook groups in the management and raising of awareness of antidepressant withdrawal: is social media filling the void left by health services? Ther. Adv. Psychopharmacol. 11, 2045125320981174.