Antidepressants and Suicide: 7,829 Inquests in England and Wales, 2003–2020

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Background: Antidepressant (AD) medications increase suicidality for some, or all, age groups. Some, or all, types of ADs, are frequently used in suicides involving overdoses.

Methods: The article examines a previously unanalyzed data set summarizing 7,829 media reports of Coroners' inquests in England and Wales that mention ADs, between 2003 and 2020.

Results: The most frequently cited ADs were SSRIs (48.9%) and tricyclics (24.6%). The specific drugs cited most often were the SSRI drug citalopram (19.8%) and the tricyclic drug amitriptyline (17.5%). Of 2,329 cases of death by overdose, 933 (40.1%) were overdoses of ADs, 512 of which (54.9%) did not involve other substances. The ADs most frequently named were amitriptyline (186), and citalopram (86). A further 929 were overdoses of unnamed medicines, a proportion of which may have been ADs.

Limitations: The data set, which relies primarily on archives of local newspapers, is incomplete and therefore underestimates the total numbers involved. The accuracy of coroners' verdicts is not perfect.

Conclusions: If preventing suicide is a primary reason for prescribing ADs, this data set includes several thousand people for whom the drugs clearly did not work. Furthermore, about 1,000 people used the drugs that were supposed to alleviate their depression to kill themselves. Systematic analyses of all inquests would be more informative. Meanwhile, reducing the overprescribing of these relatively ineffective and, for some, lethally dangerous substances is suggested, to reduce suicides.

Keywords: antidepressants; SSRIs; suicide; overdose; inquest

In the United States, 8% of the population aged over 12 used antidepressants (ADs), in a given month, between 1999 and 2002, rapidly increasing to 13% (37 million adults) by 2011–2014 (Pratt et al., 2017). During 2015–2018, use was higher among women (17.7%) than men (8.4%) and highest in women over 60 (24.3%) (Brody & Gu, 2020). In the UK, annual antidepressant (AD) prescribing doubled in 10 years, so that by 2017–2018, 7.3 million adults (17% of adults) were prescribed ADs, over 12 months, in England alone; with higher rates for women, older people and people in deprived areas (Taylor et al., 2019). Prescribing continued to increase at roughly the same rate as for previous years during the COVID-19 pandemic, with 20.5 million prescriptions of ADs in England between October and December 2020, a 6% increase compared with the same quarter in 2019/20 (Taylor et al., 2019). In the full year 2021/2022 there were 83.4 million prescriptions, to 8.3 million people, a 5% increase, in prescriptions and

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TABLE 1. Antidepressants Prescribed in the UK, 2019

Drug	Type	Items prescribed (millions)
Sertraline	SSRI	16.7
Citalopram	SSRI	14.0
Amitriptyline	Tricyclic	13.9
Mirtazapine	NaSSA	9.6
Fluoxetine	SSRI	6.8
Venlafaxine	SNRI	4.6
Duloxetine	SNRI	2.6
Paroxetine	SSRI	1.3
Escitalopram	SSRI	1.2
Trazodone	"atypical"	1.2

people, from the previous year (NHS Business Services Authority, 2022). This is nearly one in five (19%) of the adult population. Similarly, high prescription rates are found in Australia, Belgium, Canada, Iceland, Portugal, and Sweden (OECD, 2021).

In the UK, 54% of prescribed ADs are SSRIs, followed by SNRIs (23%) and Tricyclics (23%) (Druggist, 2020). Monoamine oxidase inhibitors (which were about as lethal as Tricyclics in terms of overdoses) now account for less than 1% of prescriptions. Table 1 reports the most prescribed AD drugs in the UK.

EFFICACY AND ADVERSE EFFECTS

This epidemic of prescribing has occurred despite efficacy and safety concerns (Read & Moncrieff, 2022). Less than half of early trials found ADs superior to placebo (Khan et al., 2002; Turner et al., 2008). This lack of difference between ADs and placebos is particularly frequent in nonindustry studies (Khan & Brown, 2015; Moncrieff, 2015). One meta-analysis found that "the overall effect of new-generation antidepressant medications is below recommended criteria for clinical significance" with no benefit compared to placebo except for "patients at the upper end of the very severely depressed category" (Kirsch et al., 2008). A more recent meta-analysis, of 131 placebo-controlled trials, confirmed that the overall effect size falls short of "clinical significance" and concluded that "The harmful effects of SSRIs versus placebo for major depressive disorder seem to outweigh any potential small beneficial effects" (Jakobsen et al., 2017).

High rates of adverse effects in the biological domain include: nausea, impotence, insomnia, diarrhea, dry mouth, dyspepsia, and sweating (Moncrieff & Stockmann, 2019; Moret et al., 2009; Uher et al., 2009). High rates of adverse effects in the personal and interpersonal domains have also been found. In a UK survey of nearly 1,500 AD users, 44% reported that ADs affected their sex lives, 27% their ability to work or study, and 21% their relationships with family or friends (Read et al., 2017). A sample of 1,829 AD recipients, in New Zealand, reported the following adverse effects: sexual difficulties,

62%; emotional numbing, 60%; drowsiness, 58%; dry mouth, 58%; weight gain, 56%; withdrawal effects, 55%; feeling not like oneself, 52%; agitation, 47%; reduction in positive feelings, 42%; and caring less about others, 39% (Read et al., 2018). The most significant recent development is that after decades of denial and minimization by bodies such as the Royal College of Psychiatrists in the UK (Burn & Baldwin, 2018) and the American Psychiatric Association (2010), it is now acknowledged that withdrawal effects from ADs are often severe and can last for months (Davies & Read, 2019; Hengartner et al., 2019; Horowitz & Taylor, 2019; Read et al., 2023).

DO ANTIDEPRESSANTS PREVENT OR CAUSE SUICIDALITY?

Given the paucity of evidence that ADs reduce depression significantly better than placebo, it would be surprising if the drugs reduced suicidal thinking or prevented suicides. Some have sought to explain reductions in national suicide rates in terms of increased AD prescribing (Gusmão et al., 2013). Correlation, however, does not equal causation, and there are many other possible explanations for falling suicide rates. More recently, researchers have found no relationship between national suicide rates and AD prescribing rates (Amendola et al., 2021).

There is pervasive research evidence that, rather than reducing suicidal ideation and suicide, ADs can increase them for some patients. There is disagreement, however, as to whether this disturbing outcome is limited to certain age groups or types of people. In 2003, most ADs were banned by the UK's Medicines and Healthcare Products Regulatory Agency from use with children (under 18), because of the drug company studies showing they were not only ineffective but were significantly more likely to lead to suicidal behavior than placebo (Ho, 2012). The findings had been "suppressed by the manufacturers for years" (Boseley, 2003).

In 2006, GlaxoSmithKline informed doctors in Britain that paroxetine (Seroxat) was more likely than placebo to cause suicide attempts in adults as well as children (Boseley, 2006). At the time paroxetine was the best-selling AD in Britain. Table 1 shows that it is still prescribed more than a million times a year, despite this warning.

Twenty years ago, the U.S. Food and Drug Administration (2004) required a "black box warning" for all AD drug types (including fluoxetine) for people under 18:

> Antidepressants increased the risk of suicidal thinking and behavior (suicidality) in short-term studies in children and adolescents with Major Depressive Disorder (MDD) and other psychiatric disorders. Anyone considering the use of [Insert established name] or any other antidepressant in a child or adolescent must balance this risk with the clinical need. Patients who are started on therapy should be observed closely for clinical worsening, suicidality, or unusual changes in behavior.

The warning has recently been confirmed as being "firmly rooted in solid data, whereas attempts to claim the warning has caused harm are based on quite weak evidence" (Spielmans et al., 2020).

In 2006, the FDA extended the warning to adults aged up to 25 years (Ho, 2012). In 2009, an FDA meta-analysis of 372 randomized placebo-controlled trials found that the risk of "suicidality and suicidal behavior" associated with AD use relative to placebo was significantly increased among people 25 or younger, but reduced among those aged 65 or

more. For those aged 26–64, the drugs made no significant difference (Amendola et al., 2021).

Researchers, based at the Nordic Cochrane Centre and the University of Copenhagen in Denmark argued, however, in the *Journal of the Royal Society of Medicine*, that:

> While it is now generally accepted that ADs increase the risk of suicide and violence in children and adolescents (although many psychiatrists still deny this), most people believe that these drugs are not dangerous for adults. This is a potentially lethal misconception (Bielefeldt et al., 2016).

Their argument was based on their own review of 13 double-blind, placebo-controlled trials involving citalopram, escitalopram, fluoxetine, paroxetine, sertraline, or venlafaxine, which found that these drugs "double the risk of suicidality and violence." The researchers added:

> There can be little doubt that we underestimated the harms of antidepressants… it [is] well documented that the drug companies underreport seriously the harms of antidepressants related to suicide and violence, either by simply omitting them from the reports, by calling them something else or by committing scientific misconduct (Bielefeldt et al., 2016).

In 2014, the U.K.'s National Institute for Health and Care Excellence (NICE) seemed to believe all age groups are at risk of increased suicidality from ADs:

> Due to evidence for a small but significant increase in the presence of suicidal thoughts in the early stages of antidepressant treatment, several NICE guidelines (including depression in adults, depression in adults with a chronic physical health problem and depression in children and young people) advise monitoring for this when antidepressants are prescribed. (NICE, 2014)

In the largest survey of AD users to date, in New Zealand, 39% of 1,555 people reported "suicidality" as an effect of taking ADs (Read et al., 2014). Of these, 53% categorized suicidality as "mild," 27% as "moderate," and 20% as "severe." Suicidality was greater among younger people, and those who had been on drugs for more than 3 years. A similar survey, with respondents from 38 countries, produced similar results. Of 953 people, 42.5% reported suicidality as a result of the ADs and 25% of these described the suicidality as "severe." Again, suicidality was greater among younger people, and those on ADs for over 3 years (Read & Williams, 2018).

Two conservative conclusions from all this are (a) ADs increase the risk of suicide for a large proportion of people, and (b) there is little evidence that they decrease the risk of suicide.

ANTIDEPRESSANTS AS THE MECHANISM OF SUICIDE

A 2001 review reported that tricyclics had become "second only to analgesics as the commonest drug taken in fatal drug overdose" (Kerr et al., 2001), with an average of 268 people in Britain dying this way annually. Dothiepin and amitriptyline were identified as the most lethal. The number of deaths from "drug poisoning by antidepressants" registered in England and Wales has increased 36% in 10 years, from 381 in 2010 to 517 in 2020 (Office of National Statistics, 2021), when SSRIs contributed 165 (led by

citalopram) of these deaths. Tricyclics contributed 192 deaths (mostly amitriptyline) and "Other" amounted to 219 (predominantly mirtazapine and venlafaxine). ADs exceeded benzodiazepines (476) and antipsychotics (143). These three drugs combined constituted 25% of all drug poisonings, despite being prescribed to improve mental health.

NICE (2021) notes that between 1988 and 2014, 10% of "self-poisoning" in young people aged 10–24 years in England involved ADs. Furthermore:

> Between 2006 and 2016, for suicide by self-poisoning in people in England who had been in contact with mental health services in the previous year, 33% used opiates or opioids, 11% antipsychotic drugs, 9% tricyclic antidepressants, 9% selective serotonin re-uptake inhibitors (SSRIs) or serotonin and noradrenaline re-uptake inhibitors (SNRIs) and 7% paracetamol and opiate combinations.

Thus, it seems clear that although the old tricyclics are more dangerous in relation to overdosing than SSRIs and SRNIs (Lane et al., 1995), these newer drugs can also be used to kill oneself.

AIMS OF THIS ARTICLE

This article uses a preexisting database of media reports of 7,829 inquests involving ADs, from 2003 to 2020, to try to shed more light on the relationship between these drugs and suicidality and on the use of ADs in lethal overdoses.

METHOD

Procedure

The database analyzed in this study was compiled by someone who wishes to remain anonymous. This person has given permission for the database to be used for this publication and has read and approved the article. The raw data are accessible, unanalyzed, on http://antidepaware.co.uk.

Data collection started in 2013, initially covering reports of inquests in England and Wales for the previous 10 years. Data for each subsequent year, up to 2020, were then added. The UK Google search engine was used to find local and national media articles about inquests referencing suicide and the concomitant use of ADs. Further details of how the press reports were located and subsequently recorded are available at http://antidepaware.co.uk/inquest-reports. Initially, all press reports were available via the website, but some have since been removed by the publisher, probably due to archiving of data.

To locate the historical reports (years 2003–2013), internet searches were conducted, in 2014, using combinations of the keywords "inquest," "coroner," "antidepressant," and "medication." After 2013, the same search routine was conducted on a daily or weekly basis, using the search filters "past 24 hours" or "past week." Data collection ended in 2020.

The following data were recorded in the Microsoft Excel spreadsheet provided to the authors: year of inquest, name (surnames removed on the website, or names removed altogether at request of relatives), gender, occupation, age, location, AD, cause of death, coroner's verdict, and "relevant factors." AD involvement was recorded using the name of

the specific drug if reported or as "antidepressants" if that term was used without naming the drug. Furthermore, the category "Medication for Depression (MfD)" was used "where the report refers to 'medication for depression' or similar" (http://antidepaware.co.uk).

> Coroners are independent judicial officers, appointed by the local authority, and are either doctors or lawyers responsible for investigating the cause of deaths. . . . The Coroner is expected to open an inquest where there is reasonable suspicion that the deceased has died a violent or unnatural death, where the cause of death is unknown or if the deceased died while in custody or state detention (Crown Prosecution, 2021).

The cause of death was as reported in the original media source. Recently, there has been some pressure from charities for newspapers not to report methods of suicide. Where the method was not reported, "took his/her life" was recorded. If the coroner's verdict was not reported in the media article, it is coded in the data set as "not known." "Relevant factors" consists of additional information (from 1 to 10 words) discovered in the reports deemed relevant to explain the coroners' verdict or cause of death.

In "narrative" verdicts, the circumstances are recorded without a formal verdict, in statements that do not attribute the cause to individuals. An "open" verdict means the jury confirms the death is suspicious, but is unable to reach any other verdict. Some research suggests that many "open" verdicts are recorded in suicide cases where intent cannot be established (Linsley et al., 2001). Table 2 presents one randomly selected example for each year from 2003 to 2020.

Accuracy Check

The source of the data, mostly local newspaper reports, was accessed (via http://antidepaware.co.uk/inquest-reports) and checked, for one randomly selected case from each year. For 7 of the 18 years, the selected source report was no longer accessible, largely due to the archiving of newspaper reports more than 12 years old. In these cases, the next accessible report, alphabetically, was used.

All 18 cases were accurately reported in the data set in relation to age, gender, cause of death, and coroner's verdict. Specific ADs (3) and the use of the word "antidepressants" (5) were also accurately recorded. The category "MfD" (10) was defined on the website as referring to cases "where the report refers to 'medication for depression' or similar." Examples typically referred to "depression" and either "medication," "treatment," or "mental health team/unit," rather than explicitly stating "MfD," so may have included some cases not involving ADs.

RESULTS

Sample Characteristics

Of the 7,829 cases in the data set, 5,115 (65.3%) were male and 2,714 (34.7%) were female. The mean age was 41.2 years (SD = 15.1), with a range from 10 to 97 years. Children (under 18) accounted for 2.3% of the total (184), and adults over 65 for 6.0% (462). There was no significant difference in the mean age of the males and females,

TABLE 2. Random Examples From the Data Set

Medication	Cause of death	Verdict	Relevant factors
ADs	Overdose of ADs and alcohol	Narrative	Homeless alcoholic
ADs	Overdose of ADs, painkillers, and alcohol	"Misadventure"	History of depression and had received treatment
ADs	Hanged	"Suicide"	Hoarded ADs – user of cocaine and alcohol – eating disorder
MfD (changed)	Struck by tube train	"Suicide"	Info from interview with (family member)
MfD	Stabbed himself	"Suicide"	On leave from MH unit
Citalopram	Hanged	"Suicide"	Overdose on citalopram shortly before death
MfD	Drowned in river	"Suicide"	Postmortem showed MfD
MfD	Struck by train	"Suicide"	On leave from MH unit
Citalopram	Hanged	Not known	Had been prescribed 20 mg of citalopram
MfD	Struck by train	"Suicide"	MH trust criticized by coroner
ADs	Jumped from bridge	Narrative	Prescribed ADs and antipsychotics
ADs (stopped)	Struck by train	"Suicide"	Prescribed ADs 3 weeks before death, then stopped taking them
ADs	Drowned in river	"Open"	Overdosed on ADs 3 days before death
MfD	Overdose of methadone	"Accidental"	Had told staff he was receiving medication for depression
MfD	Struck by train	"Suicide"	Did start to take his medication again a week before he died
ADs	Hanged	"Suicide"	Given ADs by his doctor and was signed off work
MfD	Overdose of drugs	"Drug-related"	Depressed…took legal prescription drugs
Amitriptyline	Overdose of amitriptyline	"Drug-related"	Fatal levels of amitriptyline…not prescribed

Note. ADs = antidepressants; MfD = medication for depression.

overall. However, 76 of the 118 cases aged 16 or less were girls (64.4%). Prisoners made up 5.8% of the sample. The majority of these 451 prisoners were men (91.8%).

Table 3 lists the more common occupations of the 4,485 cases where occupation was reported, most commonly students, unemployed, teachers, armed forces, nurses, and engineers.

The number of cases per year increased over time, ranging from 230 (2005) to 701 (2019).

Which Antidepressants?

In most instances (77.7%), the drugs were reported either as "medications for depression" (44.1%) or "ADs" (33.6%). Specific ADs were named 1,839 times, including 138 (7.4%) cases involving more than one AD. Table 4 shows that the most frequently cited ADs were SSRIs (48.9%) and tricyclics (24.6%). The specific drugs cited most often were the SSRI citalopram (19.8%), the tricyclic amitriptyline (17.5%), and mirtazapine, a noradrenergic and specific serotonergic antidepressant (NaSSA) (15.8%).

New and Changed Prescriptions

A few reports commented on how recently people had been started on ADs before they died. The 196 shortest time periods are reported in Table 5.

In 427 reports, mention was made, under "relevant factors," of changes to ADs shortly before death, including 296 "stopped"/"withdrawn," 10 "reduced," 71 "increased," and 50 "changed" (from one AD to another).

Causes of Death

Table 6 shows that when the data set is analyzed by "cause of death" (regardless of verdict), death by imbibing one or more substances is the second most common mechanism (29.8%), after hanging (34.7%). Of these 2,329 cases of death following the consumption of a dangerous substance, 933 (40.1%) were overdoses of ADs (see Table 7). A further 929 (39.9%) were overdoses of unnamed medicines, a proportion of which may have been ADs. Table 7 reports that of the 933 deaths definitely following AD overdoses, 512 (54.9%) involved ADs without any other substances.

The ADs most frequently named as being used in an overdose (sometimes in combination with other ADs or other substances) were the tricyclic drug amitriptyline (186) and the SSRI, citalopram (86) (see Table 8). In 89 cases, the overdose involved other psychiatric drugs, primarily "antianxiety"/"sleeping pills" (63) and "antipsychotic" drugs (23).

Verdicts

Nearly half (45.3%) of the coroners' verdicts were "suicide" (Table 9). Of these 3,543 definite suicide cases, the majority (84.5%) had been prescribed either unnamed "ADs" (1,209, 34.1%) or "medications for depression" (1,776, 50.1%). The most frequently named drugs were citalopram (88), fluoxetine (75), sertraline (73), and amitriptyline (71).

Besides ADs failing to prevent these suicides, the ADs provided the mechanism for suicide in 254 cases. In 92 of these overdoses involving ADs another substance was also consumed, most often painkillers (37) and other psychiatric drugs (24). In the remaining 162 suicides, ADs alone were the instrument of death. The drugs most frequently named

TABLE 3. Most Common Occupations[a] of the 4,485 Where Occupation Was Reported

Occupation	N
University/college student	270
Unemployed/redundant	174
Teacher/head teacher/teacher assistant	124
Army/navy/airforce	99
Nurse	96
Engineer	93
School student	76
Shop assistant/worker	76
Laborer/builder/construction worker	74
Businessman/woman	65
Care worker	55
Farmer	47
Police officer	46
Doctor	44
Factory/warehouse worker	39
IT/computer worker/consultant/engineer	38
Company director/manager	36
Cleaner/window cleaner	32
Musician	31
Chef	30
Lawyer/solicitor/barrister	29
Hairdresser/barber	26
Carer	25
University lecturer/researcher/professor	25
Lorry driver	22
Mechanic	22
Civil servant	20
Postal worker	20
Scientist/researcher	19
Carpenter/joiner	18
Decorator	17
Electrician	17
Warehouse worker	17

(*Continued*)

TABLE 3. Most Common Occupations[a] of the 4,485 Where Occupation Was Reported (*Continued*)

Occupation	N
Gardener	16
Plumber	15
Mental health staff[b]	14
Support worker	14
Artist	13
Landscape gardener	13
Actor/actress	11
Pharmacist	10
Social worker	10

Note. [a]Includes "ex …," "retired …," "redundant …," and "unemployed ….";[b]Psychologists, psychiatrists, and psychiatric nurses.

were amitriptyline (45, including 25 without other substances), dothiepin (31, 28), and the SSRI citalopram (17, 7).

In a further 115 cases, unspecified prescription drugs were used to overdose. It is unknown how many of these were ADs or other psychiatric drugs. Table 10 shows that many deaths as a result of taking an overdose of ADs are also recorded under other verdicts besides "suicide."

Murder–Suicides

Of the 96 cases where suicide was immediately preceded by murder, the victim (when identified) was most frequently a wife (15) or a son/daughter (16). Unspecified "ADs" were cited in 49 of the cases and "MfD" in 33. The only ADs to be named in more than two cases were mirtazapine (3) and citalopram (3). In seven cases, the ADs had recently been stopped, in six cases, they had been changed, and in two, they had been increased. In only one murder-suicide case did the suicide involves overdosing with an AD.

Electroconvulsive Therapy

Four people had been receiving electroconvulsive therapy (Read & Moncrieff, 2022; Read et al., 2019) as well as ADs. Two hanged themselves, one suffocated herself, and another died, in 2020, from a "post-ECT seizure."

DISCUSSION

Lessons to Be Learned

I present this unique data set with few firm conclusions. We do not know in how many cases the problems for which the drugs were prescribed contributed to the deaths. Nor

TABLE 4. Types of Antidepressants Cited in the Reports

Antidepressant	***N***	**Percentage of the total sample (7,829)**
Unnamed "medications for depression" … "or similar" #	3,454	44.1%
Unnamed "antidepressants"	2,630	33.6%
		Percentage of named antidepressants (1,860)
SSRI	909	48.9%
Citalopram	368	19.8%
Fluoxetine/Prozac	266	14.3%
Sertraline	229	12.3%
Paroxetine/Seroxat	34	1.8%
Escitalopram	11	0.6%
Fluvoxamine	1	0.1%
Tricyclic	457	24.6%
Amitriptyline	325	17.5%
Dothiepin/dosulepin	90	4.8%
Nortriptyline	18	1.0%
Clomipramine	15	0.8%
Imipramine	6	0.3%
Doxepin	2	0.1%
Trimipramine	1	0.1%
NaSSA	293	15.8%
Mirtazapine	293	15.8%
SNRI	161	8.7%
Venlafaxine/Effexor	142	7.6%
Duloxetine	19	1.0%
Atypical	37	2.0%
Trazodone	34	1.8%
Bupropion/Zyban	3	0.2%
MAOI	3	0.2%
Phenelzine	2	0.1%
Tranylcypromine	1	0.1%
Two or more antidepressants*	138	7.4%

Note. MAOI = monoamine oxidase inhibitors; NaSSA = noradrenergic and specific serotonergic antidepressant; SNRI = serotonin-norepinephrine reuptake inhibitor; SSRI = selective serotonin reuptake inhibitor.
includes "treatment for depression" etc. (see Accuracy Check section).
*Most commonly: amitriptyline and mirtazapine – 16, mirtazapine and citalopram – 12, amitriptyline and nortriptyline – 11.

TABLE 5. Mention of Recency of Starting Antidepressants

Time period	N
"Recently"	53
1 month	20
"A few weeks"	13
3 weeks	13
2 weeks	13
1 week	20
"A few days"	12
6 days	3
5 days	9
4 days	10
3 days	10
2 days	9
1 day	11

TABLE 6. Causes of Death

Cause of death	N	%
Hanged	2,718	34.7%
Overdose	2,329	29.8%
Overdoses definitely involving ADs	**933**	**11.9%**
Struck by …	552	7.1%
Train/tube	455	
Lorry, car, bus, or vehicle	97	
Jumped/fell	440	5.6%
Drowned	359	4.9%
Shot self	126	1.6%
Set self on fire	40	0.5%
Electrocuted	14	0.2%

can we tell in how many of the 7,829 cases ADs actively contributed to the deaths. We can say, however, that ADs failed to lift the depression sufficiently to prevent 2,718 hangings, 2,329 overdoses, 440 cases of jumping or falling to one's death, 126 cases of shooting oneself, and 40 of setting oneself on fire. In none of the 3,543 cases for which the coroner reached a clear "suicide" verdict, can ADs be reasonably described as effective.

The second conclusive finding is that at least 933 people used ADs to kill themselves, with or without other substances. In a further 929 cases, it is impossible to know whether the unspecified "prescribed medicine" used to overdose was an AD. So in somewhere

TABLE 7. The Role of Antidepressants in 2,329 Suicides by Overdose

Role of antidepressants	N	%
Definitely one or more ADS	933	40.1%
AD(s) only	512	22.0%
AD + alcohol	95	
AD + non-psych med(s)	184	
AD + other psych med(s)	54	
AD + illegal drugs	14	
AD + combination of above	74	
Possibly ADs	929	39.9%
Unspecified medicines	799	
Unspecified meds + alc/drugs	130	
Definitely not ADs	467	20.0%
Non-psych meds	264	
Illegal drugs	84	
Psych meds (not ADs)	32	
Poison	18	
Combination of above	69	

between 40.1% and 80.0% of the overdoses, the medicines prescribed to help prevent suicide were used to commit suicide. It is important to note that SSRIs, which were marketed as much safer than tricyclics in terms of lethal toxicity in overdose situations, can also kill you, with or without alcohol and other substances (see Table 10). "Easy access to lethal means among people at risk (e.g. firearms, medications)" is, unsurprisingly, officially considered a risk factor for suicide, and "Limited access to lethal means among people at risk" is, of course, a protective factor (Centers for Disease Control and Prevention, 2021). And yet, our response to millions of depressed or suicidal people, rather than trying to keep them away from lethal means, is to prescribe it to them in a bottle.

It is possible that in some cases coming off or reducing ADs caused, or contributed to, the suicide, perhaps via the depression returning after successful alleviation thereof by the ADs, perhaps because of unbearable withdrawal effects. In no cases, however, was stopping or reducing ADs mentioned as a "cause of death." Of the 306 cases where "relevant factors" mentioned that ADs had been "stopped"/"withdrawn" or reduced, most did not provide information on whether this contributed to the deaths. Three did state the person felt worse after stopping. Three reported that the person stopped because the drugs were not working. Twenty-one reported that the drugs had made the person feel worse, either emotionally or because of adverse physical effects.

This data set provides almost no evidence that the withdrawal effects, which occur in about half of the people when stopping or reducing ADs, and are frequently severe (Davies & Read, 2019; Read & Davies, 2019), contributed to the deaths. In three cases

TABLE 8. Antidepressants Named at Least 10 Times in Suicides by Overdose

Antidepressant	Type	Overdoses	Alone	With other antidepressants	With other antidepressants + other substances	With other substances*
Amitriptyline	Tricyclic	186	102 (55%)	7 (4%)	9 (5%)	68 (37%)
Citalopram	SSRI	86	27 (31%)	11 (13%)	6 (7%)	42 (49%)
Dothiepin	Tricyclic	80	60 (75%)	3 (4%)	0	17 (21%)
Venlafaxine	SNRI	63	34 (54%)	5 (8%)	2 (3%)	22 (35%)
Mirtazapine	NaSSA	42	15 (36%)	1 (2%)	6 (14%)	20 (48%)
Fluoxetine	SSRI	41	14 (34%)	1 (2%)	0	26 (62%)
Sertraline	SSRI	28	14 (50%)	2 (7%)	1 (4%)	11 (39%)
Clomipramine	Tricyclic	13	10 (77%)	0	0	3 (23%)

Note. *predominantly, painkillers/opiates, alcohol, other psychiatric drugs, other prescription drugs, and heroin.

TABLE 9. Coroners' Verdicts

Verdict	N	%
Suicide[a]	3,543	45.3%
Narrative	1,166	14.9%
Not known[b]	1,060	13.5%
Open	859	11.0%
Accidental	468	6.0%
Drug related[c]	372	4.8%
Misadventure	288	3.7%
Alcohol related[c]	67	0.9%
Natural causes	23	0.3%
Road traffic collision	20	0.3%

[a]Includes 96 "murder-suicides."
[b]Not reported in media article.
[c]Includes 53 "drug *and* alcohol related."

TABLE 10. Overdoses Using Antidepressants Leading to Most Common Verdicts

Verdict	Antidepressants alone	Antidepressants plus other substances	Unnamed prescription drugs[a]
"Suicide" (3,543)	162	97	193
"Narrative" (1,166)	89	68	96
Not known (1,060)	26	25	53
"Open" (859)	76	93	80
"Accidental" (468)	64	57	93
"Drug related" (372)	20	36	52
"Misadventure" (288)	36	34	65

[a]With or without other substances

it was mentioned under "relevant factors" that the ADs had been stopped "suddenly" or "abruptly." One case reported: "she could have suffered unpleasant withdrawal symptoms." It must be pointed out, however, that until 2019, the true extent and severity of ADs' withdrawal effects were unrecognized by medical professionals (see Introduction) so would have been unlikely to have been mentioned by coroners.

Other explanations for the relationship between stopping ADs and suicide are coincidence and the person feeling hopeless due to recognizing the drugs are not working.

The data set is also unable to address the issue of whether the increased suicidality caused by ADs occurs only "in the early stages of antidepressant treatment" (NICE, 2014). Table 5 documents 196 cases where ADs had been started within 1 month or "recently." The two large-scale online surveys mentioned earlier, however, both found that the drugs caused more suicidality in respondents who had been taking the drugs for more than 3 years (Read & Williams, 2018; Read et al., 2014). It is possible that both

are true. There could be a brief acute increase in suicidality that subsides, only to be followed by a gradual increase in hopelessness and suicidality over months or years as one realizes (a) that the drugs do not work, and/or (b) that they have multiple adverse effects (such as emotional numbing and sexual dysfunction) and/or (c) that it is very difficult to come off them without severe withdrawal effects. Future research, with better designs than online surveys, is required to address this vitally important issue.

Limitations

The collator of the data set acknowledges, on the website, some important limitations:

> The first thing to say about these lists, comprising in total more than 7800 deaths linked to antidepressants, is that all the information here has been found on the Internet, mostly in the archives of local newspapers. I have had no privileged access to any other material. I have limited myself to inquest reports dating from the beginning of 2003 and concerning deaths in England and Wales.
>
> Secondly, this list is far from complete. In fact, it could be subtitled "the tip of the iceberg." For every inquest report that I was able to include, there was at least another where toxicology was completely excluded from the report, or where medication was hidden behind phrases such as "she sought help for depression" or "he saw his GP."
>
> Then there are the local newspapers that remove reports from their archives after a certain period, those that do not have search facilities, and those that do not report the inquests in the first place. (http://antidepaware.co.uk/inquest-reports)

In England and Wales, there were 5,691 suicides in 2019 (4,303 in men and boys) (Iacobucci, 2020). There were 32,000 inquests opened in 2020 (Ministry of Justice, 2021). So "tip of the iceberg" seems an accurate description of the data set summarized here. In the absence of any comprehensive analyses of either suicides or inquests in relation to psychiatric drugs, by the government or academia, we should be grateful for the efforts of the person concerned, and try to learn from this work what we can, while acknowledging its limitations.

NICE (2019) guidelines for media reporting of suicides state that best practice includes "avoiding presenting detail on methods." So, besides the newspaper reports from which the data set was sourced, there are presumably many other reports of cases involving AD overdoses where that fact was not reported.

It is a limitation that "MfD" was broadly defined to include "or similar." As acknowledged in the Methods section, this probably led to the inclusion of cases where the "treatment" or "medication" in question was something other than ADs. Working in the opposite direction are the 929 overdose cases involving unspecified medications, many of which might have been ADs.

Another limitation is the accuracy of the coroner's verdicts. In a review of 593 cases where researchers classified deaths as suicide, only 385 (65.4%) received a suicide verdict from the coroner. Furthermore "deaths from poisoning and drowning were the least likely to be given suicide verdicts" (Palmer et al., 2015). This suggests that the data set summarized in the current article underestimates the frequency with which ADs are used in overdosing.

Finally, it is possible that overdoses are underrepresented as they are less newsworthy than violent deaths.

CONCLUSIONS

The data set we have summarized here confirms the findings of drug trials showing that ADs are ineffective for many people. The reports document the deaths of several thousand people who killed themselves despite being on ADs, and more than a thousand who actually used the drugs that were supposed to alleviate their depression to kill themselves.

These findings, combined with the inevitable shortcomings of a data set generated by one person's unfunded, voluntary efforts, illustrate how much could be learned from a properly funded, systemic review of inquest reports and national suicides with a focus on psychiatric medications. Since 2009, coroners in England and Wales have had to report cases where it may be possible to prevent future deaths. In 2017, researchers examined 500 such reports and found 99 in which medicines were mentioned, including 17 involving ADs. The researchers noted that the reports "are often addressed to local bodies, but this could mean that wider lessons are lost" (Ferner et al., 2018). When the researchers asked the local bodies (e.g., NHS trusts) how they had responded to the reports, 66 of the 99 replied.

Ferner et al. (2019) report:

> We analysed 201 separate actions proposed or taken to address the 160 concerns expressed by coroners. Staff education or training was the most common form of action taken (44/201). Some organisations made changes in process (24/201) or policy (17/201), and some felt existing policies were sufficient to address some concerns (22/201).

I concur with the researchers' conclusions (Ferner et al., 2019) that:

> Coroners' concerns are often of national importance but are not currently shared nationally. Only a minority of responses to coroners' reports concerning medicines are in the public domain. Processes for auditing responses and assessing their effectiveness are opaque. Few of the responses appear to provide robust and generally applicable ways to prevent future deaths.

It has to be said, on behalf of the thousands of people whose deaths provide the basis for this article, that doctors and professional bodies have an ethical responsibility to avoid prescribing or recommending treatments that are no more effective than a placebo for most patients, which increase suicidality in many, and which constitute an effective method for killing oneself.

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