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Changing Patterns of Psychotropics Use Among Older Adults With Intellectual Disability Over a Decade, With a Focus on Designated Mental Health Conditions

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ABSTRACT

Background: Psychotropics (sometimes off-label), mental health diagnoses and behaviours of concern are common in older adults with intellectual disability. Guidelines recommend non-pharmacological interventions and regular medication review. This study examined changes in psychotropics among older adults (≥ 40) with intellectual disability.

Methods: Longitudinal data were obtained from the Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing (IDS-TILDA) at two timepoints [Wave 1(2009/10); Wave 4(2019/20)]. Post hoc analysis, Chi-squared tests and univariate binary logistic regression were conducted.

Results: Overall, psychotropics decreased (59.2% to 56.5%). Significant decreases in antipsychotics (43.1%–40.1%) and sedatives/hypnotics (13.6%–8.1%) and significant increase in antidepressants (26.2%–31.8%) were found. Nearly half of antidepressant users reported depression at Wave 1, compared with under 30% at Wave 4. Antipsychotics and antidepressants were common (75% and 60%, respectively) among those with behaviours of concern, after excluding clinical indications.

Conclusion: Psychotropic prescribing remained consistent, though class-specific patterns shifted, with some decreases or increases observed.

1 | Background

Psychotropics are commonly prescribed in adults with intellectual disability, with reported use varying per study, often ranging from 38% (de Kuijper et al. 2024) to 90% (Deb et al. 2015). Despite common use, the prescribing of psychotropics in adults with intellectual disability has been controversial due to inconclusive evidence of its effectiveness and substantial concerns about

adverse effects (Adams et al. 2023; Matson and Mahan 2010). Yet, psychotropics are also often prescribed outside their licensed indication for this cohort (Costello et al. 2022; de Kuijper and Hoekstra 2017). A study undertaken in Ireland reported that only a quarter of psychotropic users had a psychotic disorder, while 58% reported behaviours of concern (O'Dwyer et al. 2019). Guidelines in managing behaviours of concern recommend non-pharmacological interventions as first line treatments (National

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Summary

- Psychotropic use decreased slightly over 10 years, but remains high in older adults with intellectual disabilities.
- Antipsychotic prescribing remains high.
- Antidepressant use has increased over the 10 years.
- Antidepressant use is also high in people who report behaviours of concern but who do not report depression or anxiety.

Institute for Health and Care Excellence 2015), however, lack of suitable resources is reported to prevent delivery and can result in an increase in psychotropic prescribing (Niven et al. 2018). Recent prescribing campaigns, such as STOMP in the United Kingdom [Stopping over-medication of people with a learning disability, autism or both (Royal College of Psychiatrists 2021)], which promotes appropriate prescribing, may have had a positive influence on prescribing practices in Ireland.

Mental health conditions are frequently reported in people with intellectual disability including psychosis, affective illness and anxiety disorders (Buckles et al. 2013). Approximately two-fifths of people with intellectual disability are prescribed psychotropic medicines (Song et al. 2023). Diagnoses such as mental health conditions and neurological disease (i.e., epilepsy and dementia) have been reported as significantly associated with psychotropic drug use (O'Dwyer et al. 2019). Psychotropic treatment has also been associated with living in a residential home (Koch et al. 2021; O'Dwyer et al. 2017), behaviours of concern (Costello et al. 2022; Sheehan et al. 2015) and mental health conditions (Koch et al. 2021; O'Dwyer et al. 2017).

The aim of this study was to analyse psychotropic drug use among adults with intellectual disabilities in Ireland, at two timepoints, 2009/2010 and 2019/2020 and to establish any changes in prescribing over time. This work is part of a larger study, Examining Quality, Use and Impact of Psychotropic (use) in older adults with intellectual disabilities (EQUIP) with study protocol previously published (Gorman et al. 2022).

2 | Methods

2.1 | Design

This descriptive study involves comparison of cross-sectional data on psychotropic drug use and participants' characteristics at two time points of the Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing (IDS-TILDA), Wave 1 (2009/10) and Wave 4 (2019/20). The IDS-TILDA is a representative, longitudinal study of adults with intellectual disability aged ≥ 40 years, with data collected every 3 years (representing a wave). Data are collected via a pre-interview questionnaire (sent to participants approximately a week prior to interview) and the main face-to-face interview. If the person with intellectual disability is not able to answer the questions, a proxy can answer on their behalf. Questions cover a range of health and social aspects, including physical health, cognitive, psychological, behavioural,

healthcare utilisation and access, and community participation and social connectedness. Full description of IDS-TILDA methodology can be found elsewhere (McCarron et al. 2022). The STROBE [Strengthening the Reporting of Observational Studies in Epidemiology (von Elm et al. 2007)] reporting guidelines for observational studies were used in this study.

2.2 | Participants

Those who participated in Wave 1 and Wave 4 of the IDS-TILDA and who provided medication data were eligible to participate in this study. Wave 1 involved 753 participants aged ≥ 40 years. Exclusion of those who did not provide medication data ($n=17$) yielded 736 participants in Wave 1. Given withdrawals ($n=75$) and death ($n=172$) by that point, the sample was refreshed in Wave 4 with 233 new participants (McCarron et al. 2022). Exclusion of those who did not provide medication data ($n=20$) yielded 719 participants in Wave 4. Among these partially overlapping samples, a total of 487 participants took part at both time points.

2.3 | Medication Data

The pre-interview questionnaire served as the main data source on the medication data for IDS-TILDA participants. Participants were asked 'Can you tell me what medications (including prescribed and over the counter, herbal medicines) you take on a regular basis – like every day or every week?' The answers were confirmed in the main face-to-face interview at both waves. Medicines were recorded by either brand or generic name and classified using the World Health Organisation's Anatomical Therapeutic Chemical (ATC) codes. Psychotropic medication classification was: Antipsychotics (N05A), Anxiolytics (N05B), Sedatives/hypnotics (N05C), Antidepressants (N06A) and Mood-stabilising agents [anti-seizure medications (N03A) reported by people without a diagnosis of epilepsy and lithium (N05AN01)]. Psychotropic drugs were analysed in line with their licensed indication. Accordingly, several reclassifications were undertaken to reflect main clinical use, in line with previous studies (Odalović et al. 2024; O'Dwyer et al. 2017): lithium was reclassified as a mood stabilising agent; prochlorperazine was reclassified as an antiemetic/antinauseant; clonazepam was reclassified as an anxiolytic in participants who had no diagnosis of epilepsy and reported diagnosis of a mental health condition; rectal diazepam and clobazam were removed from anxiolytics; midazolam was removed from the sedative/hypnotic subclass. Details of specific variables created, alongside further detail on reclassification, are presented in Appendix S1.

2.4 | Measures of Health Status

Several health-related characteristics were identified in the literature and baseline cross-sectional IDS-TILDA studies as potentially associated with psychotropic drug use (O'Dwyer et al. 2016, 2017). Functional status was measured using the Barthel Index (BI) scores: total dependence (0–4), severe dependence (5–12), moderate dependence (13–18), mild dependence

(19) and total independence (20) (Wade and Collin 1988). Participants were asked if they had received a doctor's diagnosis in relation to dementia, epilepsy and/or mental health condition. The cause of intellectual disability was also captured in IDS-TILDA. Behaviours of concern were assessed by the Behaviour Problem Inventory (BPI) short form (Rojahn et al. 2012). This contains 30 items divided into three categories of behaviour [self-injurious behaviours (8 items), aggressive/destructive behaviours (10 items), stereotyped behaviours (12 items)]. This included any information on non-pharmacological support services in relation to behaviours of concern. Full details of health-related variables are available in Appendix S1.

2.5 | Co-variates

Demographic co-variates were age, sex, type of residence and level of intellectual disability. Further details are available in Appendix S1.

2.6 | Analysis Approach

Descriptive statistics of population characteristics were calculated as proportions of the total study sample of those who reported medication data (Wave 1 = 736; Wave 4 = 719). Data analyses were performed using IBM SPSS statistics version 27.0 (IBM Corporation 2020) and R version 4.2.2 (Carey et al. 2022; R core team 2022). Statistical significance was set at $p < 0.05$.

Wave 1 and Wave 4 samples were considered as partially overlapping paired and unpaired observations. Accordingly, differences in proportions between two waves were tested with test statistics proposed by Derrick et al. (2015) for comparing two proportions of binary variables with partially overlapping samples. Post hoc analysis for pairwise comparisons was then undertaken to investigate differences between each of the two categories for any categorical variables with three categories. The Bonferroni correction was applied in this case and statistical significance was set at 0.017 (0.05/3 combinations).

Chi-squared tests were used to test differences of proportions between groups. A univariate binary logistic analysis was used to analyse univariate associations between potential explanatory variables using health status and demographic characteristics as independent variables and psychotropic drug use [binary variable: any psychotropic use (1+ psychotropics) versus no psychotropic use (0 psychotropics)] as the dependent variable. Crude odds ratio with 95% confidence interval was used to explain the association of an explanatory variable and psychotropic drug use.

3 | Results

3.1 | Change in Patterns of Psychotropic Use Over a Decade

Participants' demographic and health-related characteristics are presented in Table 1. For the majority of studied characteristics, there were no significant differences. Samples were

however significantly different in age ($p < 0.001$), residence ($p < 0.001$) and functional status ($p < 0.05$) as measured by Barthel index (Table 1).

There was no significant change in prevalence of any psychotropic drug use between Wave 1 and Wave 4 (Table 2). Moreover, no significant change was revealed in prevalence of different mental health conditions (Appendix S2). However, significant differences between Wave 1 and Wave 4 were observed for the prevalence of prescribing of the following psychotropic sub-categories: antipsychotics (43.3 vs. 40.1%, $p < 0.05$), sedatives/hypnotics (13.6 vs. 8.1%, $p < 0.001$) and antidepressants (26.2 vs. 31.8%, $p < 0.001$), as shown in Table 2.

Investigation of psychotropic polypharmacy showed no significant difference between waves in psychotropic intraclass polypharmacy (Appendix S3). However, analysis of psychotropic interclass polypharmacy revealed significant decreases in concurrent usage of antipsychotic, anxiolytic and sedatives/hypnotics (5.3 vs. 1.0%, $p < 0.001$), as well as in antipsychotic, anxiolytics, sedatives/hypnotics and antidepressant use between Wave 1 and Wave 4 (2.7 vs. 0.7%, $p < 0.001$) (Appendix S4).

As shown in Table 3, there was a low prevalence of antipsychotic users reporting psychosis in Wave 1 and Wave 4 (13.6 vs. 6.6%, respectively), but higher prevalence of them reporting: (i) anxiety (44.3 vs. 45.8%), (ii) emotional problems and mood swings (44.7 vs. 42.0%), (iii) depression (31.1 vs. 20.8%). After exclusion of those who reported psychosis, hallucinations, schizophrenia and manic depression (indications for antipsychotics), again anxiety, emotional problems and mood swings, and depression dominated in both waves. Among those who did not report certain indications for antipsychotics (psychosis, hallucinations, schizophrenia and manic depression), but taking antipsychotics, 75.1% reported behaviours of concern in Wave 4, and of those, 63.1% reported stereotyped behaviours.

Table 4 presents types of mental health conditions reported by people prescribed antidepressants following exclusion of participants reporting depression. Almost half of antidepressant users, 48.9%, reported depression in Wave 1, but only 28.4% in Wave 4. After exclusion of those who reported depression and anxiety (indications for antidepressants), the dominant reported conditions in both waves were emotional problems and mood swings (22.4 vs. 16.8%). However, 60.2% of those who did not report depression and anxiety but were taking antidepressants reported behaviours of concern in Wave 4.

The majority of antipsychotic and antidepressant users who did not report any mental health conditions resided in community group homes in Wave 4, 66.0% and 58.1%, respectively. The smallest number of participants not reporting mental health conditions but antipsychotic use (8%) or antidepressant use (21.0%) resided with family or independently. Additionally, they were significantly less likely to live in residential care settings in comparison to those with mental health conditions, psychotropic users: 26.0 vs. 47.4% and antidepressant users: 21.0 vs. 42.2%, respectively (Appendices S5 and S6). Still high, but a significantly lower prevalence of behaviours of concern was revealed among psychotropic users without any concurrent mental health condition in comparison to those who reported

TABLE 1 | Comparison of participants' characteristics between two time points, 2009/10 (Wave 1) and 2019/20 (Wave 4) using IDS-TILDA data.

Characteristics	Wave 1 (2009/10), n, % N= 736 ^a	Wave 4 (2019/20), n, % N= 719 ^a
Age (years) ^b		
40–49	279, 37.9	128, 17.8
50–64	335, 45.5	396, 55.1
65+	122, 16.6	195, 27.1
Gender		
Male	327, 44.4	332, 46.2
Female	409, 55.6	387, 53.8
Residence ^c		
Independent/Family	122, 16.6	124, 17.4
Community group home	265, 36.0	344, 48.4
Residential care	349, 47.4	243, 34.2
Level of intellectual disability		
Mild	164, 24.1	189, 27.9
Moderate	316, 46.3	305, 45.0
Severe/Profound	202, 29.6	184, 27.1
Epilepsy		
No	506, 69.2	500, 69.7
Yes	225, 30.8	217, 30.3
Mental health condition		
No	353, 49.8	382, 53.1
Yes	356, 50.2	337, 46.9
Dementia & Alzheimer's disease		
No	689, 93.8	682, 94.9
Yes	47, 6.3	37, 5.1
Down syndrome and other types of intellectual disability		
Other/unknown/don't know/missing	592, 80.4	583, 81.1
Yes	144, 19.6	136, 18.9
Barthel index		
Mild dependence/Total independence	212, 29.5	168, 24.7
Moderate/Severe/Total dependence	507, 70.5	511, 75.3
Behaviours of concern		
No	—	283, 40.7
Yes	—	413, 59.3
Non-pharmacological support to people with behaviours of concern		
No	—	448, 60.6
Yes	—	239, 32.3

^aNumbers may not total N number in column due to missing data.^bSignificant difference between the following age categories: 40–49 vs. 50–64 ($p < 0.001$) and 50–64 vs. 65+ ($p < 0.001$).^cSignificant difference between the following residence categories Independent/Family residence vs. community group homes ($p < 0.05$), community group homes vs. residential care setting ($p < 0.001$).

TABLE 2 | Comparison of psychotropic drug use in two timepoints, 2009/10 (Wave 1) and 2019/20 (Wave 4) using IDS-TILDA Data.

Drug category	Wave 1 (2009/10), n, % N = 736	Wave 4 (2019/20), n, % N = 719	<i>p</i> ^a
Any psychotropic use			> 0.05
No	300, 40.8	313, 43.5	
Yes	436, 59.2	406, 56.5	
Antipsychotics			< 0.05
No	417, 56.7	431, 59.9	
Yes	319, 43.3	288, 40.1	
Anxiolytics			
No	563, 76.5	613, 85.3	< 0.001
Yes	173, 23.5	106, 14.7	
Sedatives/Hypnotics			
No	636, 86.4	661, 91.9	< 0.001
Yes	100, 13.6	58, 8.1	
Mood stabilising agents			
No	650, 88.3	615, 85.5	0.057
Yes	86, 11.7	104, 14.5	
Antidepressants			
No	543, 73.8	490, 68.2	< 0.05
Yes	193, 26.2	229, 31.8	

^a*p* < 0.05.

mental health conditions as follows: antipsychotic users: 61.2% versus 77.3%, antidepressant users: 53.3% versus 71.8%, *p* < 0.05 (Appendices S5 and S6). There were no significant differences between psychotropic and antidepressant users who reported and who did not report mental health conditions with regards to age, gender, level of intellectual disability, epilepsy, dementia, Down syndrome and other types of intellectual disability, and Barthel index scores.

As reported in Table 5, around two-thirds of participants who reported behaviours of concern (67.1%) reported psychotropic drug usage, while only 57.2% of those reported that they received non-pharmacological support services. Most of these were reported as behaviour support plans; however, it was not in the scope of this study to investigate non-pharmacological supports further. More than a third, 35.5%, of participants who reported behaviours of concern in the absence of mental health conditions reported psychotropic use (Table 5). Antidepressants and antipsychotics (19.3% and 18.1%, respectively) were the dominant psychotropics for this population.

Univariate analysis as may be seen in Table 6 revealed several significant associations with psychotropic drug use in participants who reported behaviours that challenge (in the absence of mental health conditions) that include: (i) any psychotropic use: 50–64 years of age (OR: 4.82, CI: 1.72–13.50), 65+ years of

age (OR: 4.40, CI: 1.54–15.01), living in community group home (OR: 4.70, CI: 1.28–17.19), (ii) antipsychotics: 65+ years of age (OR: 7.33, CI: 1.50–35.86), reported Down syndrome and other types of intellectual disability (OR: 0.27, CI: 0.08–0.93), (iii) antidepressants: 50–64 years of age (OR: 6.55, CI: 1.46–29.29), female gender (OR: 2.34, CI: 1.03–5.34), reported dementia (OR: 4.78, CI: 1.29–17.66).

4 | Discussion

Comparative analysis of psychotropic drug use among people with intellectual disability between two time points, 2009/2010 and 2019/2020, with partially overlapping samples, indicated relatively stable and high exposure to psychotropics over the decade, 59.2 vs. 56.5%, respectively. There was no significant change in the service user/carer reported mental health condition over time. However, there was a significant decrease in antipsychotic, anxiolytic and sedative/hypnotic use and an increase of antidepressant exposure suggesting some significant changes in psychotropic use patterns. Despite these pattern changes, antipsychotics remained the most used psychotropics at both time points (43.3 vs. 40.1%). Although the difference was statistically significant, the authors note that the absolute change was low (3%). Significant changes were also seen in the use of antidepressants (26.2 vs. 31.8%) and anxiolytics (23.5 vs. 14.7%). In addition, 75.1% of antipsychotic users and 60.4% of antidepressant users reported behaviours of concern in 2019/2020, after exclusion of participants with indications approved for antipsychotic and antidepressant prescribing.

The pattern of antipsychotic prescribing decreasing has also been reported in a Scottish study (Henderson et al. 2020), however, antipsychotic prescribing rates there were much lower in comparison to IDS-TILDA data (16.7% vs. 40.1%). The increase in antidepressant prescribing has also been seen in the same Scottish study (Henderson et al. 2020), in studies undertaken in Australia [19.4% increase from 1999 to 2015 (Song et al. 2020)] and England [7.7% increase from 2009 to 2021 (Branford and Shankar 2022)]. It is important to explore these patterns further to understand the causes of observed changes in psychotropic drug use patterns among people with intellectual disabilities and identify factors that may have driven these changes. A study looking at participants of the IDS-TILDA study who participated in Wave 1 to Wave 4 found no significant differences in the prevalence of psychotropic use (61.2%–64.2%) or psychotropic polypharmacy (47.6%–44.6%) (Odalović et al. 2024).

This study revealed that 16.5% and 17.4%, respectively, of adults with intellectual disability who reported antipsychotic drugs did not report any mental health condition in 2009/10 and 2019/20, respectively, as did 16.7% and 27.1% who reported antidepressants. The most frequent users of antipsychotics and antidepressants in 2019/20 were adults with intellectual disability who reported behaviours of concern. A third of participants who reported behaviours of concern in the absence of a mental health condition used psychotropic drugs, with antidepressants and antipsychotics being the most frequent, 19.3% and 18.1% of this cohort. It is possible that these participants had been prescribed antidepressant or antipsychotic medications to manage behaviours of concern, a finding that has been reported in

TABLE 3 | Types of conditions reported by people prescribed antipsychotics and after excluding participants who reported psychosis, hallucinations, schizophrenia, emotional problems and manic depression.

Reported health condition	Antipsychotic users		Antipsychotic users after exclusion those who reported psychosis, hallucinations, schizophrenia and manic depression	
	Wave 1 (2009/10), n, %, N = 319 ^a	Wave 4 (2019/20), n, %, N = 288 ^a	Wave 1 (2009/10), n, %, N = 218 ^a	Wave 4 (2019/20), n, %, N = 241 ^a
Any mental health condition	258, 83.5	237, 82.6	167, 76.6	190, 79.2
Psychosis	42, 13.6	19, 6.6	—	—
Depression	96, 31.1	60, 20.8	61, 28.0	46, 19.1
Manic depression	22, 7.1	14, 4.9	—	—
Anxiety	137, 44.3	132, 45.8	97, 44.5	108, 44.8
Schizophrenia	31, 10.0	18, 6.3	—	—
Hallucinations	26, 8.4	13, 4.5	—	—
Emotional problems and mood swings	138, 44.7	121, 42.0	92, 42.2	94, 39.0
Dementia	21, 6.6	11, 3.8	13, 6.0	9, 3.7
Any behaviour of concern	—	211, 73.3	—	178, 75.1
Type of behaviours of concern ^b				
Self-injurious	—	128, 44.4	—	105, 44.7
Aggressive/destructive	—	131, 45.5	—	107, 46.5
Stereotyped	—	177, 61.5	—	149, 63.1

^aNumbers may not total N number in column due to missing data and participants may report more than one mental health condition.^bSome participants may report behaviour that challenges in more than one of the sub-categories.

previous research. Recent studies have also reported psychotropic use among individuals with behaviours of concern without a mental health condition, but at a lower rate; antipsychotics 8.1% and antidepressants 4.7% (García-Domínguez et al. 2022), despite a similar reported prevalence of behaviours of concern, 59.3% in this study vs. 54.5% by García-Domínguez et al. (2022).

The association with behaviours of concern deserves further investigation; 67.1% of IDS-TILDA participants at Wave 4 who reported behaviours of concern reported use of any psychotropic. Antipsychotics were reported in over half and antidepressants in 36.1% participants who reported behaviours of concern (see Table 5 above). A recent systematic review and meta-analysis examined the use of psychotropic drugs in the acute management of behaviours of concern in people with intellectual disability (Campos-Jara et al. 2024). The limited number of studies included did not allow for conclusive results; however, it did support favourable evidence for prescribing psychotropics in the management of behaviours of concern (Campos-Jara et al. 2024). In comparison, Costello et al.'s (2022) scoping review found the use of antipsychotics and other psychotropic medicines resulted in reduced repetitive, stereotypic and/or aggressive behaviours. It is important to note the small sample sizes and heterogeneous cohorts within the scoping review. Further studies are needed to provide evidence for appropriate use of psychotropics, and benefits and risks in people with intellectual disability who

develop or present with behaviours of concern. However, Deb et al. (2025) report that antipsychotics were more commonly prescribed for behaviours of concern rather than anxiety or psychosis, highlighting again the prescribing of psychotropics to manage behaviours of concern.

Non-pharmacological treatment of behaviours of concern represents the recommended first line treatment, while antipsychotic medications are suggested only in combination with psychological or other intervention (National Institute for Health and Care Excellence 2015). Upon further examination, in this study 57.2% of participants with behaviours of concern reported non-pharmacological treatment with 67.1% also reporting psychotropic drug use suggesting that future work should include measuring the effects of different and more frequent use of non-pharmacological treatments.

Predictors for psychotropic drug use among those who reported behaviours of concern in the absence of a mental health condition include older age and residence in a community group home. The association between psychotropic drug use and residential living has been reported in other studies of this cohort (Odalović et al. 2024; O'Dwyer et al. 2017). The finding of psychotropic use being significantly associated with community group homes may be a result of participants having transitioned from residential to community group homes. Research in England, focusing

TABLE 4 | Types of conditions reported by people prescribed antidepressants and after excluding participants who reported depression.

Reported health condition	Antidepressant users		Antidepressant users after exclusion those who reported depression and anxiety	
	Wave 1 (2009/10), <i>n</i> , %, <i>N</i> = 193 ^a	Wave 4 (2019/20), <i>n</i> , %, <i>N</i> = 229 ^a	Wave 1 (2009/10), <i>n</i> , %, <i>N</i> = 58 ^a	Wave 4 (2019/20), <i>n</i> , %, <i>N</i> = 101 ^a
Any mental health condition	155, 83.3	167, 72.9	27, 46.6	39, 38.6
Depression	91, 48.9	65, 28.4	—	—
Psychosis	20, 10.8	9, 3.9	4, 6.9	1, 1.0
Manic depression	7, 3.8	4, 1.7	2, 3.4	2, 2.0
Anxiety	85, 45.7	105, 45.9	—	—
Schizophrenia	11, 5.9	4, 1.7	2, 3.4	0
Hallucinations	13, 7.0	9, 3.9	2, 3.4	0
Emotional problems and mood swings	82, 44.1	83, 36.2	13, 22.4	17, 16.8
Dementia	20, 10.4	13, 5.7	6, 10.3	6, 5.9
Behaviours of concern	—	149, 65.1	—	61, 60.4
Type of behaviours of concern ^b				
Self-injurious	—	93, 40.6	—	34, 33.7
Aggressive/destructive	—	87, 38.0	—	36, 35.6
Stereotyped	—	111, 48.5	—	42, 41.6

^aNumbers may not total *N* number in column due to missing data and participants may report more than one mental health condition.^bSome participants may report behaviour that challenges in more than one of the sub-categories.**TABLE 5** | Pharmacological and non-pharmacological treatment of participants who reported behaviours of concern in Wave 4.

	Reported behaviours of concern, <i>N</i> = 413, <i>n</i> , %	Reported behaviours of concern in the absence of any mental health condition, <i>N</i> = 166, <i>n</i> , %
Psychotropic class		
Any psychotropic	277, 67.1	59, 35.5
Antipsychotic	211, 51.1	30, 18.1
Anxiolytics	88, 21.3	14, 8.5
Sedatives/hypnotics	47, 11.4	10, 6.0
Mood stabilising agents	72, 17.4	11, 6.6
Antidepressant	149, 36.1	32, 19.3
Non-pharmacological support services	231, 57.2	66, 40.7

on people with intellectual disability and epilepsy, has shown older adults in professional care settings have increased antipsychotic prescribing (Badger et al. 2024). Other research has shown no major changes in medication use (not specifically psychotropics), following change of residence (Nøttestad and Linaker 2003). Additionally, older age contributed to higher odds of antipsychotic use in this group, while Down syndrome was associated with lower odds of antipsychotic use. Moreover, usage of antidepressants by participants who reported behaviours of

concern in the absence of a self-reported mental health condition was significantly associated with higher age, female gender and dementia. This contrasts with another study not reporting an association between gender, behaviours of concern or antidepressant use (Sheehan et al. 2015). The increase in antidepressant use and association with females is similar to findings in the general population, where women more commonly report taking antidepressants (Arthur et al. 2019), while depression has shown to be prevalent in older adults with intellectual

TABLE 6 | Factors associated with psychotropic usage in participants who reported behaviour that challenges in the absence of a mental health condition in Wave 4 (2019/2020).

	Any psychotropic OR, (CI)	Antipsychotics OR, (CI)	Antidepressants OR, (CI)
Age (years)			
40–49	1	1	1
50–64	4.82 (1.72–13.50) ^a	4.19 (0.92–19.14)	6.55 (1.46–29.29)
65+	4.40 (1.54–15.01) ^a	7.33 (1.50–35.86)	3.38 (0.64–17.92)
Gender			
Male	1	1	1
Female	1.54 (0.81–2.93)	1.46 (0.65–3.26)	2.34 (1.03–5.34)
Residence			
Independent/Family	1	—	1
Community group home	4.70 (1.28–17.19) ^a	1.68 (0.72–3.90)	1.81 (0.48–6.81)
Residential care	2.86 (0.75–10.84)	1	1.15 (0.29–4.67)
Level of intellectual disability			
Mild	1	1	1
Moderate	1.40 (0.51–3.83)	2.46 (0.52–11.70)	1.06 (0.34–3.26)
Severe/Profound	0.99 (0.35–2.84)	2.25 (0.46–11.05)	0.45 (0.13–1.60)
Epilepsy			
No	1	1	1
Yes	1.00 (0.52–1.95)	0.74 (0.31–1.73)	0.79 (0.35–1.80)
Dementia & Alzheimer's Disease			
No	1	1	1
Yes	2.92 (0.79–10.78)	—	4.78 (1.29–17.66)
Down syndrome and other types of intellectual disability			
Other/unknown/don't know/ missing	1	1	1
Yes	0.73 (0.34–1.53)	0.27 (0.08–0.93)	0.94 (0.39–2.29)
Barthel index			
Mild dependence/Total independence	1	1	1
Moderate/Severe/Total dependence	2.04 (0.82–5.10)	2.92 (0.65–8.13)	0.76 (0.29–1.97)

Abbreviations: CI, confidence interval; OR, odds ratio.

^a $p < 0.05$.

disability (Bond et al. 2020). However, further research is warranted to better establish predictors of psychotropic treatment of behaviours of concern in the absence of self-reported mental health condition as well as the associations between psychotropic use and particular demographics.

Changes in psychotropic drug use have occurred over 10 years, as presented in the results. The lower use of sedative/hypnotics may reflect new national guidance on appropriate prescribing

of these agents in Ireland. The decrease of benzodiazepines is a reflection of increased education and recent audits of benzodiazepines use by the Health Service Executive (Health Service Executive 2021). The increase in antidepressant use is similar to what is seen in both the intellectual disability and general populations in the United Kingdom (Arthur et al. 2019; Bogowicz et al. 2021; Branford and Shankar 2022). The reporting of antipsychotics decreased slightly, but remained high, and this may be due to the lack of structured multidisciplinary national

initiatives to reduce use in Ireland, such as STOMP (STopping Over-Medication of People with a learning disability, autism or both) in the United Kingdom.

5 | Limitations

The reliance on a self-report of receiving a doctor's diagnosis of a mental health condition can be considered a limitation. IDS-TILDA does not specify if this diagnosis had to be from a specialist (e.g., psychiatrist) or non-specialist (e.g., general practitioner) nor does it provide a definition of types of mental health conditions reported. However, the diagnosis was also verified from patients' clinical notes, if available.

Over half of participants in this study have moderate or severe/profound level of intellectual disability, consistent with IDS-TILDA being a nationally representative sample of people aged 40 and over with intellectual disability living in Ireland as drawn from the National Intellectual Disability Database (McCarron et al. 2022) which includes all people in Ireland with an intellectual disability who require services. This may mean that people with mild intellectual disability and not in need of services may be under-represented.

It was not possible to determine the outcome of individuals that had a non-pharmacological intervention in place to manage reported behaviours of concern.

Author Contributions

Ashleigh Gorman (formal analysis, data curation, writing-original draft), Marina Odalović (formal analysis, validation, writing-original draft), Aviejay Paul (formal analysis, writing-review and editing), Philip McCallion (conceptualisation, methodology, writing-review and editing, supervision, funding acquisition), Éilish Burke (conceptualisation, methodology, writing-review and editing, funding acquisition), Malcolm MacLachlan (conceptualisation, methodology, writing-review and editing, funding acquisition), Mary McCarron (conceptualisation, methodology, writing-review and editing, supervision, funding acquisition), Martin C. Henman (conceptualisation, methodology, writing-review and editing, funding acquisition), Maeve Moran (conceptualisation, methodology, writing-review and editing, funding acquisition), Juliette O'Connell (conceptualisation, methodology, writing-review and editing, funding acquisition), Rohit Shankar (conceptualisation, methodology, writing-review and editing, funding acquisition), Caitriona M. Ryan (methodology, formal analysis, writing-review and editing), Cristín Ryan (writing-review and editing), Máire O'Dwyer (conceptualisation, methodology, writing-review and editing, supervision, project administration, funding acquisition).

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Ethics Statement

Ethical approval for IDS-TILDA study was granted by the Trinity College Dublin (TCD) Faculty of Health Sciences Research Ethics Committee and the 138 service providers who support the participants with intellectual disability.

Consent

IDS-TILDA follows a process of consent reaffirmation throughout data collection. All participants provided consent for their data to be analysed and published.

Conflicts of Interest

R.S. has received institutional and research support from LivaNova, UCB, Eisai, Veriton Pharma, Bial, Angelini, UnEEG and Jazz/GW pharma outside the submitted work. He holds grants from NIHR AI, SBRI and other funding bodies, all outside this work. No other authors have conflicts of interest.

Data Availability Statement

The data are not publicly available due to privacy and ethical restrictions. The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Data S1:** Supplementary Information.