

Prevalence of antidepressant prescriptions for community-dwelling adults diagnosed with depressive disorder in the UK: a systematic review

Abstract

Background: The UK National Institute for Health and Care Excellence (NICE) guidance for the treatment of depression is widely followed and has international influence. According to these guidelines, antidepressant medications are recommended for moderate to severe depression. Nonetheless, antidepressants are increasingly prescribed, including for cases of subthreshold and mild depression. This may indicate that a proportion of depressed patients uses pharmacological interventions with unclear evidence-base, though other factors such as physical and mental health comorbidities need to be accounted for.

Objective: This study aims to investigate the prevalence and trends of antidepressant prescriptions among community-dwelling adults diagnosed with depression according to NICE recommendations.

Methods: We conducted a systematic review of PsycInfo, PubMed/MEDLINE, and Scopus databases. Observational studies reporting on the prevalence of antidepressant treatments in UK adults diagnosed with depression were sought.

Results: Fifteen studies were included. The prevalence of antidepressants for depression treatment ranged from 30.8% to 95% and mainly concerned selective serotonin reuptake inhibitors (SSRIs) among classes of antidepressant drugs. Little information about depression severity as well as comorbid conditions was reported.

Conclusion: High prevalence rates of antidepressant drug use highlight the widespread adoption of pharmacological interventions, while also raising concerns about compliance with NICE guidelines. Careful assessment of depressive illness severity and comorbidities is needed to ensure the delivery of adequate care to people with depression.

Systematic review registration number (PROSPERO): CRD42023448152.

Keywords

Systematic Review, Depression, Antidepressant, UK, NICE

Introduction

Depression is a common mental disorder and one of the leading causes of disability worldwide [1]. According to the World Health Organization (WHO), an estimated 5% of the global adult population suffers from a depressive disorder [2], and its prevalence may have increased in recent years [3]. In Europe, the overall prevalence of depressive disorders in the general population is 6.38%, while the rate in the United Kingdom (UK) reaches 10% [4].

The WHO International Classification of Diseases (ICD) distinguishes between mild, moderate, and severe forms of depression based on the number of depressive symptoms and their impact on functioning [5]. The more depressive symptoms a patient experiences, the higher the degree of severity [5]. Furthermore, the greater the impact of symptoms on an individual's functioning in a variety of domains (e.g., personal, occupational, social), the more severe the depression [6]. When not enough symptoms required for a diagnosis of depression are present, but the individual still experiences some depressive symptoms, the term "subthreshold depression" can be used [5,7]. Subthreshold depression is a significant precursor of depression in the general population [8]. This is different from the diagnosis of dysthymia, which is considered a distinct kind of chronic depressive disorder and will not be considered here.

A systematic review including studies between 2004 and 2020 showed that only one-third of adults from the general population (in 79 countries) suffering from depression, according to the ICD or the Diagnostic and Statistical Manual of Mental Disorders (DSM), were receiving any treatment [9]. The UK National Institute for Health and Care Excellence (NICE), in line with several other international guidelines such as the American Colleges of Physicians [10] and the American Psychological Association [11], has recently updated its guidance about treatment strategies for depression. NICE (2022) recommends an approach based on severity level to treat depression: psychotherapy and other self- or social interventions (e.g., group physical activity, self-help) for mild to subthreshold illness, and a combination of psychosocial interventions and pharmacotherapy for moderate to severe depression [12]. Such recommendations are based on evidence supporting the efficacy of antidepressants [13], which appears directly proportional to the severity of the depressive disorder [14,15]. Antidepressant medications should therefore only be used for moderate to severe depression according to NICE [12], but they seem to be widely prescribed to treat subthreshold and mild depression too [16,17]. Indeed, the prescription rate of antidepressants continues to increase worldwide [18,19]. Higher antidepressant prescription rates could be partly explained by the

corresponding increase in the incidence and morbidity of depressive disorders as well as their use for other conditions, including physical and mental health comorbidities [18]. However, other data suggest that a large proportion of the population might be taking antidepressants in the absence of clear evidence-based indications [20]. In other words, the high prescription rates of antidepressants can suggest suboptimal adherence to NICE guidelines, which are widely accepted in the healthcare community [21]. However, there is a lack of up-to-date evidence to support this hypothesis.

This study aims to address this knowledge gap by focussing on antidepressant prescriptions in the UK. The UK is a leading consumer of antidepressants [22,23], and NICE guidelines are tailored to the UK healthcare system, which should ensure a better alignment with practices and standards [12]. Unravelling trends in UK prescriptions of antidepressants can therefore contribute to understanding prescription patterns in other countries too, especially those where NICE guidance is followed.

Objectives

This systematic review aims to summarise evidence on the 12-month prevalence of antidepressant prescriptions among UK community-dwelling adults diagnosed with depression. We also aim to present data about antidepressant prescribing according to depression severity, in line with UK NICE guidance, with a view to identify shifting trends in antidepressant prescriptions and concordance with guidelines.

The “PECO” (population, exposure, comparison, outcome) table is available in Supplementary Material, S1.

Methods

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols [24]. The study protocol is registered in the database of the International Prospective Register of Systematic Reviews (PROSPERO) database, registration number CRD42023448152.

Search strategy

Exposures of interest included the prescription of any antidepressant licensed for use in the UK according to the British National Formulary (<https://bnf.nice.org.uk/>). This includes selective serotonin reuptake inhibitors (SSRIs), serotonin and norepinephrine reuptake inhibitors (SNRIs),

tricyclic antidepressants (TCAs), monoamine oxidase inhibitors (MAOIs), and other antidepressants not classified elsewhere, independently of their class – full list in Supplementary Material, S2.

One researcher (LF) developed the search strategy in collaboration with other medical and evidence-synthesis specialists who are part of the research team. We used relevant keywords (e.g., “depression”, “antidepressant”, “prevalence”, “SSRI”) and a combination of controlled vocabulary of Medical Subject Headings (MeSH; e.g., “Antidepressive Agents”, “Drug Utilisation”) to search PubMed/MEDLINE, Scopus, and PsycINFO for relevant observational studies without any timeframe restriction. Duplicates were removed using Endnote v.20 software [25]. The full search strategy is available in Supplementary Material, S3.

Inclusion and exclusion criteria

Participants had to be community-dwelling adults (18+ years old) diagnosed with depression in the previous 12 months, which is the most widely used epidemiological indicator of depression in the general population. The diagnosis of depression had to be made according to the 10th or 11th version of the ICD criteria [5,6] or any other standardised classification system (e.g., DSM-IV). We excluded studies focusing on other mental health illnesses, including dysthymia, as a primary diagnosis. Studies had to use observational designs (e.g., cohort studies) and report the prevalence of antidepressant prescriptions. We excluded experimental designs, case-control, case-series, case-report studies, editorials, commentaries, lectures, and reviews. Studies had to be conducted in the UK. In the interests of consistency, we have decided to extend our inclusion criteria. We included all articles regardless of the publication date.

Study selection and data extraction

One researcher conducted the study selection and data extraction in its entirety, while two others shared equally and conducted in parallel the selection of studies and the extraction of data. Discrepancies were discussed and resolved by consensus with another researcher.

Phase 1 involved the initial screening of titles and abstracts using Rayyan software (Ouzzani et al., 2016) to verify relevance. Phase 2 included the eligibility check of the full-text articles that passed the initial screening phase against prespecified inclusion/exclusion criteria. Reasons for exclusion (e.g., no population of interest when the study did not involve people with depression) were recorded during this phase.

Following the above, the three researchers extracted data on (1) study identification (DOI, year of publication, first author, title, and keywords), (2) characteristics (study design, type of data, age/sex of the sample), and (3) exposures and outcomes (prevalence and type of antidepressants, diagnoses).

Quality assessment

Two reviewers evaluated the quality of the included studies using the Joanna Briggs Institute Critical Appraisal Tool (JBI): Checklist for Studies Reporting Prevalence Data [26]. This appraisal tool helped assess the methodological quality of a study and to determine the presence of bias in the design, conduction, and analysis of the included studies. The specific domains assessed vary depending on the type of study. For observational studies (i.e. the ones considered in this systematic review) the tools help to assess domains such as the selection of participants, the exposure and outcome measurement, and the statistical analysis. The details of the JBI tools used for this systematic review can be consulted in Supplementary Material, S4.

Data synthesis and analysis

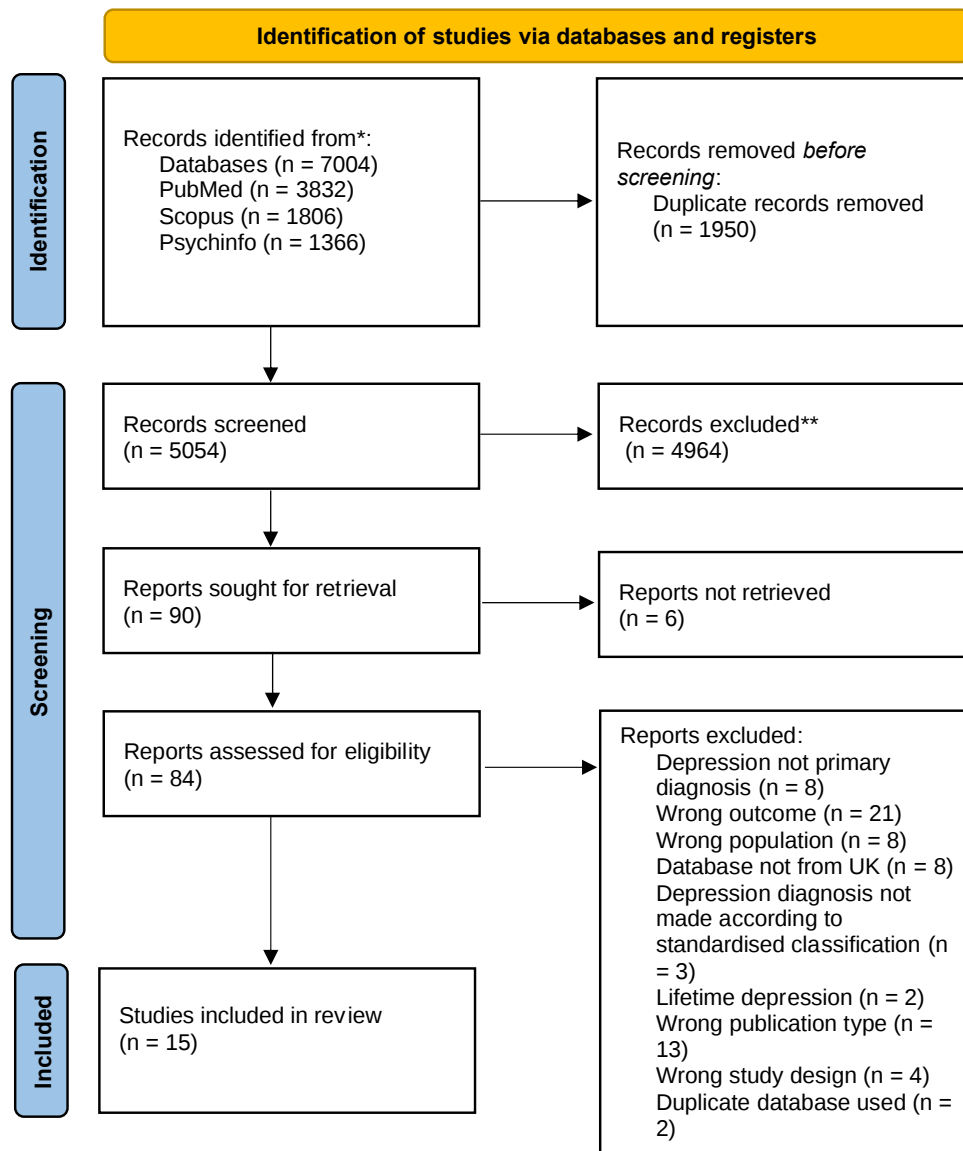
We summarised data on the prevalence of antidepressant prescriptions among community-dwelling adults diagnosed with depression in the UK. We provided a qualitative summary of the data found by presenting a narrative summary using text and tables [27,28]. We did not pool data given that most of the included studies use the same UK administrative databases, therefore we cannot exclude the possibility of overlapping in collected data [29].

Results

Search results

Our search retrieved 3,832 articles on PubMed/MEDLINE, 1,806 on Scopus, and 1,366 on PsycInfo. After duplicate removal, the database search yielded 5,054 records. Following the application of inclusion/exclusion criteria, we obtained 98 articles for full-text review, and 15 studies could be included. The PRISMA diagram is displayed in Fig. 1.

Fig. 1 PRISMA flowchart



Characteristics of the included studies

The studies included in this systematic review reported data on antidepressant prescriptions from 1986 to 2023. The sample sizes in the studies ranged from 604 to 5 million participants. Most of the studies included participants from various regions of the UK, except Tamblyn et al. [30], which included samples collected in several countries (i.e., UK, United States of America, Canada, and Taiwan – for the purpose of this systematic review, only the sample of participants from the UK was considered). Most studies (12) predominantly included women (from >50% to 69%), except for Siraj

et al. [31] which reported a majority of men (>60%). Table 1 summarises the characteristics of the included studies. The full list of references of the articles included in this systematic review is also separately available in Supplementary Material, S5.

Several studies in this systematic review reported on the 12-month prevalence (6) or incidence/current diagnoses (7) of antidepressant prescriptions among people with depression. However, two studies do not provide sufficient information about the type of prevalence provided. As the aim of this systematic review is not to pool data, we have decided to include these studies. The concern of overlapping data was not an issue here as similar results within studies could be coherent. Some studies included participants with physical comorbidities such as obstructive pulmonary disease [31], inflammatory bowel disease [32], and obesity [33,34] or focus on a special group such as Dearman and al. [35] (2006) who studied the management strategies in geriatric depression.

All the studies included in this systematic review used administrative databases to define the prevalence of antidepressant prescriptions, except for one that used reports from clinicians and clinical audit staff using a bespoke data collection tool [36]. Twelve of the studies used “Read codes” to classify depression – these are clinical codes used in general practice (primary care) in the UK and are maintained by the UK National Health Service Centre for Coding and Classification. Three studies [34,37,38] used ICD-10 criteria to assess depression among participants.

The available studies encompassed all antidepressants available in the UK market, except for Tambllyn et al. [30], which excluded MAOIs. Generally, all studies identified the common use of SSRIs as the primary choice for antidepressant therapy. Table 2 summarises the outcomes of the included studies.

The quality assessment of all studies via JBI tool overall displayed no major concerns for most studies – details are reported in Supplementary Material, S5.

Prevalence of antidepressant prescriptions

Over the 15 studies, the prevalence of antidepressant prescriptions for treating depression ranged from 30.7% [38] to 95% [39]. Overall, the prevalence of antidepressant prescriptions among participants with depression exceeded 60%, with exceptions noted in three studies [31,37, 38]. Weich et al. [38] presented the minimum criteria for evidence-based antidepressant treatment -therapeutic dose of an

antidepressant (BNF), for at least 4 weeks, and at a minimum frequency of four days per week on average- for depression in primary care, which may explain why the prevalence rate is lower in this study. Siraj et al. [31] reported a comparatively lower prevalence of only 51% of participants with depression receiving antidepressant prescriptions. Unlike other studies, this paper examined the prevalence of antidepressant prescriptions in the month following diagnosis. This article is also the only one to feature a majority of men (>60%). Yang et al. [37] reported that 43% of participants, who were over 50 years old and diagnosed with depression, received antidepressant therapy – details of reported prevalence rates for each study are reported in Supplementary Material, S6.

Morriss et al. [34] examined antidepressant prescription rates among overweight adults (BMI > 25kg/m²) with depression, finding a prevalence of 66.3%, and reporting a correlation between antidepressant prescriptions, obesity, and all-cause mortality. The association between antidepressant prescriptions, mortality, and high body mass index (BMI) was also investigated in another study: Gafoor et al. [33] reported a prevalence of 87.6% of antidepressant prescriptions among participants with depression and revealed the recurrent coexistence of depression and a high BMI (>25kg/m²) within the sample.

Assessment of depression and its severity

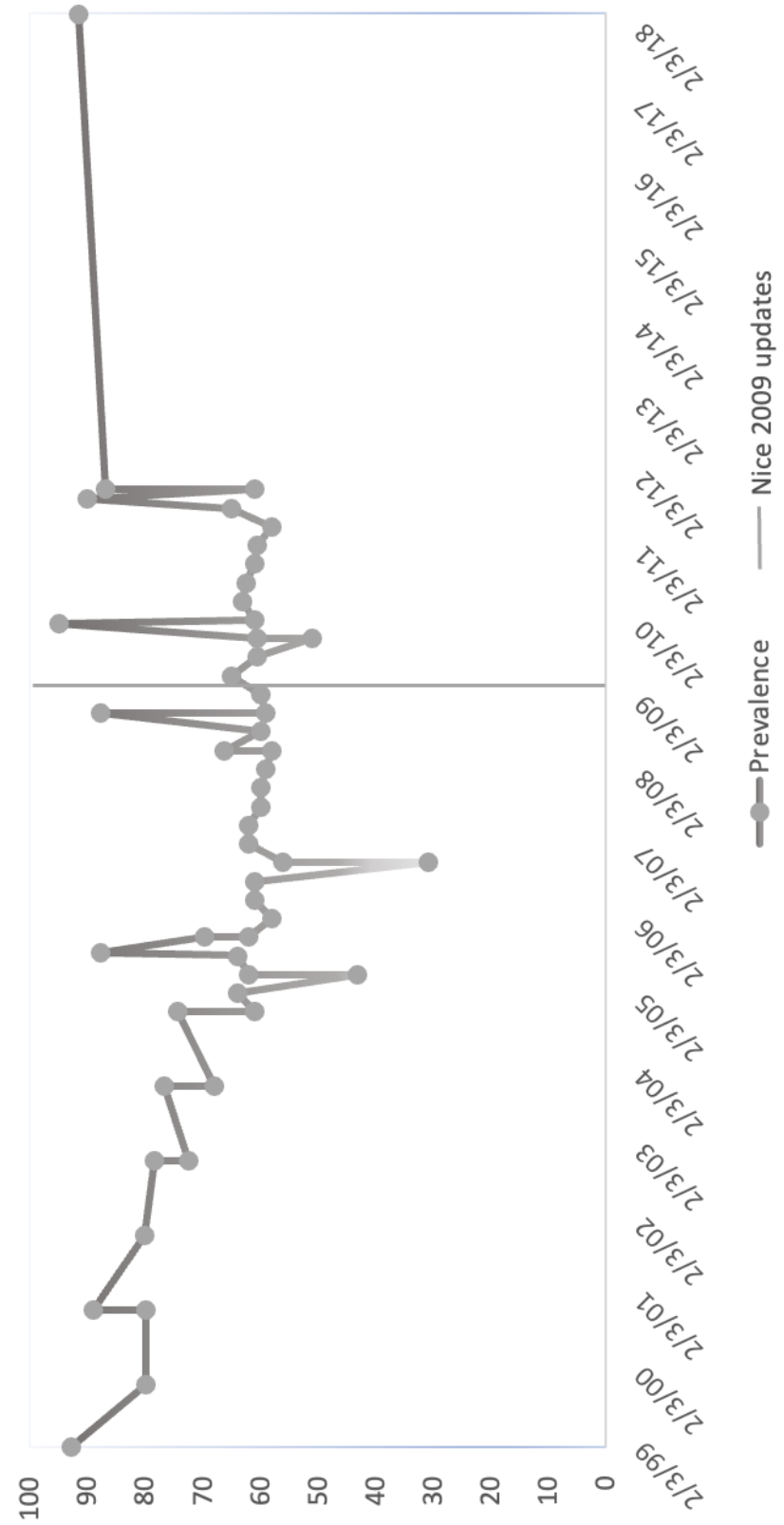
In more than half of the included studies (eight out of fifteen), the severity of depression was not specified. Among the six studies that addressed severity, only one [36] reported antidepressant prescription prevalence according to severity, focusing on moderate and severe depression. Paton et al. [36] showed prescription prevalence rates of 91% among people with moderate depression and 92% among those with severe depression. It also reported that a lack of changes in the Patient Health Questionnaire-9 (PHQ-9) scores (i.e., no improvement in the severity of the depression at different times with the same treatment strategy) corresponded to treatment changes, aligning with NICE guidelines, which recommends changing treatment strategy if no improvement is detected [40].

Trends of antidepressants prescription

Trends in antidepressant prescriptions varied across studies. Kendrick et al. [41] explored antidepressant treatment trends and found a decrease in treatment rates for initial depressive episodes after the introduction of the 2009 NICE guidelines (date of inclusion of specific recommendations from NICE about antidepressant treatment according to depression severity). However, Moore et al. [39] reported an increasing average number of prescriptions per patient from 1993 (79.3) to 1999

(80%) and a decrease from 1999 to 2005 (74.3%). Similarly, John et al. [42] reported a rise in SSRI prescriptions over a decade, with 90% of participants with depression using antidepressants in a study covering the period from 2006 to 2017. In two independent studies, Coupland et al. [43] and Coupland et al. [44] reported a slightly lower prevalence of antidepressant prescriptions among participants with depression at 89% in 2011 [43] and (87.7%) in 2018 [44]. However, these studies had different sample characteristics: the 2011 study focused on participants over 65 years of age, while the 2018 study included participants aged 24 to 64 years. Fig. 2 illustrates the trends in antidepressant prescriptions across the included studies.

Fig. 2 Prevalence of antidepressant treatment during the years of included studies



Discussion

This study aimed to evaluate the prevalence of antidepressant prescriptions among people suffering from depression and to compare them with NICE recommendations [12]. The results of this study show a high rate of antidepressant prescribing (7 out of 15 studies had a prescribing rate of more than 70%), and mixed compliance with NICE guidelines.

The prevalence rates of antidepressant treatment, which ranged from 30.8% [38] to 95% [36] among individuals with depression in the UK, suggest a widespread adoption of pharmacological interventions. Compared to studies conducted in other countries [45, 46], our observed prevalence rates appear higher. A recently published study showed several differences across 19 European countries [45]: Austria had the highest prevalence of antidepressant prescriptions at 81.3%, while Estonia was the lowest at 13.5%. The UK, however, showed a rate of around 30% [45]. Another worldwide study assessing treatment coverage for depression found that among high-income countries, the Netherlands was the country with the highest treatment rate of people with depression at 33.3%, followed by Germany and Belgium at 31.6% and 29.5% respectively [46]. Differences across the reported rates may be due to several factors, including differing study methodologies. The study by Chen et al. [45] focuses on the presence of depressive symptoms according to self-report rather than on a diagnosis of depression based on a standardised classification or a general practitioner. Similarly, the study by Thornicroft et al. [46] was an epidemiological investigation using interviews conducted in the participant's home. In our systematic review, conversely, the majority of the included studies used an administrative database taking into account participants who had visited a primary care physician. This might explain higher prevalence rates due to routine recording of prescriptions. Additionally, this study explored the prevalence of the “minimum treatment required” (i.e., receiving either pharmacotherapy (≥ 1 month of medication, plus ≥ 4 visits to any type of medical doctor) or psychotherapy (≥ 8 visits with any professional including religious or spiritual advisor, social worker, or counsellor) rather than the prescription of antidepressants [46]. To improve the robustness of future research, we recommend the use of standardized diagnostic criteria and consistent methodologies across studies to facilitate more accurate comparisons. Siraj et al. [31] reported that only 51% of participants suffering from physical disease and depression receive antidepressant prescriptions. This may raise concerns about potential disparities in treatment access for depression among patients suffering from comorbidities such as chronic obstructive pulmonary disease. The association between adverse outcomes (e.g., increased mortality rates, increased risk of weight gain) and antidepressant prescriptions [44,33] emphasises the need for a nuanced risk

assessment, which includes consideration of comorbidities and lifestyle factors before initiating an antidepressant treatment [46]. A closer examination of equitable distribution and tailored interventions to ensure that all individuals have equal access to antidepressant therapies are warranted [47].

Assessment of depression severity with respect to NICE guidelines

The severity of depression was not specified in 8 out of 15 studies. Among the eight studies that addressed severity, only one [36] reported antidepressant prescription prevalence according to severity and showed similar prescription prevalence rates for moderate (91%) and severe (92%) depression. Our systematic review therefore displays a substantial lack of information reporting. Among the included studies, almost none specified whether the depression was mild, moderate, or severe. Without reports on the level of severity, it is not possible to confirm adherence to guidelines [12]. Raising awareness around this problem may encourage researchers to report and investigate the level of severity of depression in future studies. We recommend that future research include standardized measures of depression severity to ensure adherence to guidelines and facilitate appropriate resource allocation. This can include using validated scales such as the Hamilton Depression Rating Scale (HDRS) in relevant studies [48]. A more systematic consideration and reporting of the severity level of depression may facilitate the allocation of professional resources as stated in the guidelines. Understanding potential issues surrounding antidepressant prescriptions, such as overprescribing or underprescribing, and identifying the severity level is crucial for healthcare systems and policies. This is particularly relevant given the evidence of a direct relationship between the efficacy of antidepressants in moderate and severe depression [12].

Trends in antidepressant prescriptions and NICE guidelines

Studies reporting high prevalence rates of antidepressant prescriptions among individuals suffering from depression are not unexpected given the structure of the UK mental health system. Thanks to community mental health teams, the management of mental disorders within the community is broader and routinely registered, compared to other countries, which helps comply with NICE guidelines [49,50]. The importance of NICE guidelines and evidence-based practices in the UK especially in real-world settings seems to be reinforced. Indeed, Tamblyn et al. [30] showed that SSRIs are the first choice to begin therapy [51]. Additionally, Kendrick et al. [41] observed a decrease in treatment rates observed for initial episodes after the introduction of the 2009 NICE guidelines.

However, the observed increase in prescriptions per patient over the years [42] prompts reflection on guidelines adherence and the need for structured care approaches [52].

Limitations

Our study has several limitations. First, there is not limited time frame applied to the selection of articles. Nonetheless, the NICE guidelines have presented several updates that may have affected the prevalence of antidepressant prescriptions among people suffering from depression (i.e., October 2009 publication of updated NICE guidelines for the management of depression in adults including specific recommendations regarding pharmacological treatment for subthreshold and mild depression). Additionally, prioritising more recent publications increases the likelihood of obtaining insights that accurately reflect current prescription patterns. Three studies [36,39,41] included some participants aged below 18 years old. However, we still included them because they did not exclusively focus on a paediatric population, and participants under 18 years of age were a very limited number (4 participants (0%) between 15 and 18 years old in Paton et al. [36]; <5% in Moore et al. [39]; 7,959 participants (7.9%) in Kendrick et al. [41]). In addition, it is important to bear in mind that most studies use administrative databases that take into account the opinion of the general practitioner. As a result, antidepressant prevalence rates are dependent on professional care and the probability of being prescribed antidepressants in consultation is higher than when data are collected in the general population. Finally, the use of administrative databases in the included articles makes it impossible to pool studies due to the risk of overlapping samples. Especially for studies of Yang et al. [37], Morriss et al. [34] and Gafoor et al. [33] for which it is important to take the results and their interpretation with caution. Nevertheless, the reports provide a clear picture of changes in the coverage of pharmacological treatments for people with depression.

Conclusions

While this study highlights a high prevalence of antidepressant prescriptions among individuals with depression in the UK and points to mixed compliance with NICE guidelines, it also underscores significant limitations due to variability in study methodologies and lack of severity reporting. Our findings underscore the importance of analysing treatment coverage prevalence based on depression severity as well as the need to promote personalised care, especially by considering factors such as the presence of physical health comorbidities. Because of poor recording of depression severity, adherence to the severity-based treatment approach recommended by NICE cannot be fully assessed.

To improve the quality and comparability of future research, we recommend the adoption of standardized diagnostic criteria and consistent methodologies, as well as the routine reporting of depression severity using validated scales. Addressing these limitations will enhance our understanding of treatment practices and ensure better adherence to guidelines, ultimately improving patient outcomes.

Statements and Declarations

Ethics approval and consent to participate

This systematic review does not require ethical approval.

Consent for publication

Not applicable.

Availability of data and materials

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Funding

This study was supported by funds from the European Union's recovery, transformation, resilience, and Next Generation-EU plan: Exp. INVESTIGO 2022-C23.I01.P03.S0020-0000031- Área Psiquiatría).

REFERENCES

- [1] Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. (2022). *The Lancet Psychiatry*, 9(2), 137–150. [https://doi.org/10.1016/s2215-0366\(21\)00395-3](https://doi.org/10.1016/s2215-0366(21)00395-3)
- [2] WHO. (n.d.). *Depressive disorder (depression)*. World Health Organization. Retrieved April 25, 2023, from <https://www.who.int/news-room/fact-sheets/detail/depression>
- [3] Moreno-Agostino, D., Wu, Y.-T., Daskalopoulou, C., Hasan, M. T., Huisman, M., & Prina, M. (2021). Global trends in the prevalence and incidence of depression: a systematic review and meta-analysis. *Journal of Affective Disorders*, 281, 235–243. <https://doi.org/10.1016/j.jad.2020.12.035>
- [4] Arias-de la Torre, J., Ronaldson, A., Prina, M., Matcham, F., Pinto Pereira, S. M., Hatch, S. L., Armstrong, D., Pickles, A., Hotopf, M., & Dregan, A. (2021). Depressive symptoms during early adulthood and the development of physical multimorbidity in the UK: an observational cohort study. *The Lancet Healthy Longevity*, 2(12), e801–e810. [https://doi.org/10.1016/s2666-7568\(21\)00259-2](https://doi.org/10.1016/s2666-7568(21)00259-2)
- [5] World Health Organization. (1992). The ICD-10 Classification of Mental and Behavioural Disorders : Clinical Descriptions and Diagnostic Guidelines. <https://apps.who.int/iris/handle/10665/37958>.
- [6] World Health Organization. (2019). 6A70 Single episode depressive disorder. *International statistical classification of diseases and related health problems* (11th ed.). <https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/1804127841>
- [7] Juruena M. F. (2012). Understanding subthreshold depression. *Shanghai archives of psychiatry*, 24(5), 292–293. <https://doi.org/10.3969/j.issn.1002-0829.2012.05.009>
- [8] Zhang, R., Peng, X., Song, X., Long, J., Wang, C., Zhang, C., Huang, R., & Lee, T. M. C. (2023). The prevalence and risk of developing major depression among individuals with subthreshold depression in the general population. *Psychological medicine*, 53(8), 3611–3620. <https://doi.org/10.1017/S0033291722000241>
- [9] Mekonen, T., Chan, G. C. K., Connor, J. P., Hides, L., & Leung, J. (2021). Estimating the global treatment rates for depression: A systematic review and meta-analysis. *Journal of Affective Disorders*, 295, 1234–1242. <https://doi.org/10.1016/j.jad.2021.09.038>

- [10] Qaseem, A., Owens, D. K., Etcheandia-Ikobaltzeta, I., Tufte, J., Cross, J. T., Jr., Wilt, T. J., Crandall, C. J., Balk, E., Cooney, T. G., Fitterman, N., Hicks, L. A., Lin, J. S., Maroto, M., Obley, A. J., Tice, J. A., Yost, J., Crandall, C. J., Balk, E., ... Cooney, T. G. (2023). Nonpharmacologic and Pharmacologic Treatments of Adults in the Acute Phase of Major Depressive Disorder: A Living Clinical Guideline From the American College of Physicians. *Annals of Internal Medicine*, 176(2), 239–252. <https://doi.org/10.7326/m22-2056>
- [11] American Psychological Association. (2019). *Clinical practice guidelines for the treatment of depression across three age cohorts*. Retrieved from <https://www.apa.org/depression-guideline>
- [12] National Institute for Health and Care Excellence. (2022). Depression in adults: treatment and management [NICE Guideline NG222]. <https://www.nice.org.uk/guidance/ng222>
- [13] Cipriani, A., Furukawa, T. A., Salanti, G., Chaimani, A., Atkinson, L. Z., Ogawa, Y., Leucht, S., Ruhe, H. G., Turner, E. H., Higgins, J. P. T., Egger, M., Takeshima, N., Hayasaka, Y., Imai, H., Shinohara, K., Tajika, A., Ioannidis, J. P. A., & Geddes, J. R. (2018). Comparative efficacy and acceptability of 21 antidepressant drugs for the acute treatment of adults with major depressive disorder: a systematic review and network meta-analysis. *Lancet (London, England)*, 391(10128), 1357–1366. [https://doi.org/10.1016/S0140-6736\(17\)32802-7](https://doi.org/10.1016/S0140-6736(17)32802-7)
- [14] Fournier, J. C., DeRubeis, R. J., Hollon, S. D., Dimidjian, S., Amsterdam, J. D., Shelton, R. C., & Fawcett, J. (2010). Antidepressant Drug Effects and Depression Severity. *JAMA*, 303(1), 47. <https://doi.org/10.1001/jama.2009.1943>
- [15] Kirsch, I., Deacon, B. J., Huedo-Medina, T. B., Scoboria, A., Moore, T. J., & Johnson, B. T. (2008). Initial Severity and Antidepressant Benefits: A Meta-Analysis of Data Submitted to the Food and Drug Administration. *PLoS Medicine*, 5(2), e45. <https://doi.org/10.1371/journal.pmed.0050045>
- [16] Baumeister, H. (2012) Inappropriate prescriptions of antidepressant drugs in patients with subthreshold to mild depression: time for the evidence to become practice. *J Affect Disord*, 139(3), 240-3. <https://doi.org/10.1016/j.jad.2011.05.025>.
- [17] Davidson SK, Romaniuk H, Chondros P, Dowrick C, Pirkis J, Herrman H, Fletcher S, Gunn J. Antidepressant treatment for primary care patients with depressive symptoms: Data from the *diamond* longitudinal cohort study. *Aust N Z J Psychiatry*. 2020 Apr;54(4):367-381. doi: 10.1177/0004867419898761. Epub 2020 Jan 20. PMID: 31957463.

- [18] Lunghi, C., Dugas, M., Leclerc, J., Poluzzi, E., Martineau, C., Carnovale, V., Stéfan, T., Blouin, P., Lépine, J., Jalbert, L., Espinoza Suarez, N. R., Svyntozelska, O., Dery, M.-P., Ekanmian, G., Nogueira, D. M., Akinola, P. S., Turcotte, S., Skidmore, B., & LeBlanc, A. (2022). Global prevalence of antidepressant drug utilization in the community: protocol for a systematic review. *BMJ Open*, 12(5), e062197. <https://doi.org/10.1136/bmjopen-2022-062197>
- [19] Royal Pharmaceutical Society. (2022). Antidepressant prescribing increases by 35% in six years. *Pharmaceutical Journal*. <https://doi.org/10.1211/pj.2022.1.149158>
- [20] Kendrick, T. (2020). Strategies to reduce use of antidepressants. *British Journal of Clinical Pharmacology*, 87(1), 23–33. <https://doi.org/10.1111/bcp.14475>
- [21] Lowson, K., Jenks, M., Filby, A., Carr, L., Campbell, B., & Powell, J. (2015). Examining the implementation of NICE guidance: cross-sectional survey of the use of NICE interventional procedures guidance by NHS Trusts. *Implementation science : IS*, 10, 93. <https://doi.org/10.1186/s13012-015-0283-4>
- [22] Raftery, J. (2001). NICE: Faster access to modern treatments? Analysis of guidance on health technologies. *BMJ : British Medical Journal*, 323(7324), 1300-1303. <https://doi.org/10.1136/bmj.323.7324.1300>
- [23] Kendrick T. (2021). Strategies to reduce use of antidepressants. *Br J Clin Pharmacol*, 87: 23–33. <https://doi.org/10.1111/bcp.14475>
- [24] Shamseer, L., Moher, D., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ*, 349(1), g7647–g7647. <https://doi.org/10.1136/bmj.g7647>
- [25] Clarivate. (2020). Accelerate your research with EndNote 20 [Internet]. <<https://endnote.com/product-details/compare-previous-versions>>.
- [26] The Joanna Briggs Institute. Joanna Briggs Institute Reviewers' Manual: 2011 edition. Adelaide: The Joanna Briggs Institute; 2011.

- [27] Tawfik, G. M., Dila, K. A. S., Mohamed, M. Y. F., Tam, D. N. H., Kien, N. D., Ahmed, A. M., & Huy, N. T. (2019). A step by step guide for conducting a systematic review and meta-analysis with simulation data. *Tropical Medicine and Health*, 47(1). <https://doi.org/10.1186/s41182-019-0165-6>
- [28] Haidich A. B. (2010). Meta-analysis in medical research. *Hippokratia*, 14(Suppl 1), 29–37.
- [29] Lensen, S. (2023). When to pool data in a meta-analysis (and when not to)? *Fertility and Sterility*, 119(6), 902-903. <https://doi.org/10.1016/j.fertnstert.2023.03.015>
- [30] Tamblyn, R., Bates, D. W., Buckeridge, D. L., Dixon, W., Forster, A. J., Girard, N., Haas, J., Habib, B., Kurteva, S., Li, J., & Sheppard, T. (2019). Multinational comparison of new antidepressant use in older adults: a cohort study. *BMJ Open*, 9(5), e027663. <https://doi.org/10.1136/bmjopen-2018-027663>
- [31] Siraj, R. A., McKeever, T. M., Gibson, J. E., & Bolton, C. E. (2022). Incidence of depression and antidepressant prescription in patients with COPD: A large UK population-based cohort study. *Respiratory Medicine*, 196, 106804. <https://doi.org/10.1016/j.rmed.2022.106804>
- [32] Frolkis, A. D., Vallerand, I. A., Shaheen, A.-A., Lowerison, M. W., Swain, M. G., Barnabe, C., Patten, S. B., & Kaplan, G. G. (2018). Depression increases the risk of inflammatory bowel disease, which may be mitigated by the use of antidepressants in the treatment of depression. *Gut*, 68(9), 1606–1612. <https://doi.org/10.1136/gutjnl-2018-317182>
- [33] Gafoor, R., Booth, H. P., & Gulliford, M. C. (2018). Antidepressant utilisation and incidence of weight gain during 10 years' follow-up: population based cohort study. *BMJ*, k1951. <https://doi.org/10.1136/bmj.k1951>
- [34] Morriss, R., Tyrer, F., Zaccardi, F., & Khunti, K. (2021). Safety of antidepressants in a primary care cohort of adults with obesity and depression. *N. van Rein (Ed.), PLOS ONE*, 16(1), e0245722. <https://doi.org/10.1371/journal.pone.0245722>
- [35] Dearman, S. P., Waheed, W., Nathoo, V., & Baldwin, R. C. (2006). Management strategies in geriatric depression by primary care physicians and factors associated with the use of psychiatric services: A naturalistic study. *Aging & Mental Health*, 10(5), 521–524. <https://doi.org/10.1080/13607860600637984>

- [36] Paton, C., Anderson, I. M., Cowen, P. J., Delgado, O., & Barnes, T. R. E. (2020). Prescribing for moderate or severe unipolar depression in patients under the long-term care of UK adult mental health services. *Therapeutic Advances in Psychopharmacology*, 10, 204512532093049. <https://doi.org/10.1177/2045125320930492>
- [37] Yang, L., Deng, Y.-T., Leng, Y., Ou, Y.-N., Li, Y.-Z., Chen, S.-D., He, X.-Y., Wu, B.-S., Huang, S.-Y., Zhang, Y.-R., Kuo, K., Feng, W., Dong, Q., Feng, J.-F., Suckling, J., Smith, A. D., Li, F., Cheng, W., & Yu, J.-T. (2023). Depression, Depression Treatments, and Risk of Incident Dementia: A Prospective Cohort Study of 354,313 Participants. *Biological Psychiatry*, 93(9), 802–809. <https://doi.org/10.1016/j.biopsych.2022.08.026>
- [38] WEICH, S., MORGAN, L., KING, M., & NAZARETH, I. (2007). Attitudes to depression and its treatment in primary care. *Psychological Medicine*, 37(9), 1239–1248. <https://doi.org/10.1017/s0033291707000931>
- [39] Moore, M., Yuen, H. M., Dunn, N., Mullee, M. A., Maskell, J., & Kendrick, T. (2009). Explaining the rise in antidepressant prescribing: a descriptive study using the general practice research database. *BMJ*, 339(oct152), b3999–b3999. <https://doi.org/10.1136/bmj.b3999>
- [40] Moore, M., Ali, S., Stuart, B., Leydon, G. M., Ovens, J., Goodall, C., & Kendrick, T. (2012). Depression management in primary care: an observational study of management changes related to PHQ-9 score for depression monitoring. *British Journal of General Practice*, 62(599), e451–e457. <https://doi.org/10.3399/bjgp12x649151>
- [41] Kendrick, T., Stuart, B., Newell, C., Geraghty, A. W. A., & Moore, M. (2015). Did NICE guidelines and the Quality Outcomes Framework change GP antidepressant prescribing in England? Observational study with time trend analyses 2003–2013. *Journal of Affective Disorders*, 186, 171–177. Elsevier BV. <https://doi.org/10.1016/j.jad.2015.06.052>
- [42] John, D., Montvida, O., Chin, K. L., Khunti, K., & Paul, S. K. (2022). Antidepressant prescriptions and therapy intensification in men and women newly diagnosed with depression in the UK. *Journal of Psychiatric Research*, 154, 167–174. <https://doi.org/10.1016/j.jpsychires.2022.06.054>

- [43] Coupland, C., Dhiman, P., Morriss, R., Arthur, A., Barton, G., & Hippisley-Cox, J. (2011). Antidepressant use and risk of adverse outcomes in older people: population based cohort study. *BMJ*, 343(02 1), d4551–d4551. <https://doi.org/10.1136/bmj.d4551>
- [44] Coupland, C., Hill, T., Morriss, R., Moore, M., Arthur, A., & Hippisley-Cox, J. (2018). Antidepressant use and risk of adverse outcomes in people aged 20–64 years: cohort study using a primary care database. *BMC Medicine*, 16(1). <https://doi.org/10.1186/s12916-018-1022-x>
- [45] Chen, S., Ford, T. J., Jones, P. B., & Cardinal, R. N. (2022). Prevalence, progress, and subgroup disparities in pharmacological antidepressant treatment of those who screen positive for depressive symptoms: A repetitive cross-sectional study in 19 European countries. *The Lancet Regional Health*, 17, 100368. <https://doi.org/10.1016/j.lanepe.2022.100368>
- [46] Thornicroft, G., Chatterji, S., Evans-Lacko, S., Gruber, M., Sampson, N., Aguilar-Gaxiola, S., ... Kessler, R. C. (2017). Undertreatment of people with major depressive disorder in 21 countries. *British Journal of Psychiatry*, 210(2), 119–124. <https://doi.org/10.1192/bjp.bp.116.188078>
- [47] Aakhus, E., Granlund, I., Odgaard-Jensen, J. *et al.* (2015) A tailored intervention to implement guideline recommendations for elderly patients with depression in primary care: a pragmatic cluster randomised trial. *Implementation Sci*, 11, 32. <https://doi.org/10.1186/s13012-016-0397-3>
- [48] Hamilton M. (1960). A rating scale for depression. *J Neurol Neurosurg Psychiatry*, 23,56–62
- [49] Hanley, B., Scott, H. & Priest, H. (2017) The impact of organisational change on professionals working within a Community Mental Health Team (CMHT): a psychodynamic perspective, *Psychoanalytic Psychotherapy*, 31(2), 176-194, <https://doi.org/10.1080/02668734.2017.1315338>
- [50] Mellor, S., Pantall, S.-A., & Brownell, L. (2021). Compliance with nice guidelines for management of depression in a community mental health team. *BJPsych Open*, 7(S1), S333–S334. <https://doi.org/10.1192/bjo.2021.875>
- [51] Pillinger, T., Howes, O. D., Correll, C. U., Leucht, S., Huhn, M., Schneider-Thoma, J., Gaughran, F., Jauhar, S., McGuire, P. K., Taylor, D. M., Young, A. H., & McCutcheon, R. A. (2023). Antidepressant and antipsychotic side-effects and personalised prescribing: a systematic review and digital tool development. *The Lancet Psychiatry*, 10(11), 860–876. Elsevier BV. [https://doi.org/10.1016/s2215-0366\(23\)00262-6](https://doi.org/10.1016/s2215-0366(23)00262-6)

[52] Woltmann, E., Grogan-Kaylor, A., Perron, B., Georges, H., Kilbourne, A. M., & Bauer, M. S. (2012). Comparative effectiveness of collaborative chronic care models for mental health conditions across primary, specialty, and behavioral health care settings: systematic review and meta-analysis. *American Journal of Psychiatry*, 169(8), 790-804. <https://doi.org/10.1176/appi.ajp.2012.11111616>