Received: 3 October 2022 | Revised: 9 December 2022 | Accepted: 30 December 2022

DOI: 10.1111/jorc.12458

REVIEW ARTICLE

Journal of Renal Care | EDTNA/ERCA | WILEY

Approaches to the identification and management of depression in people living with chronic kidney disease: A scoping review of 860 papers

Christina J. Pearce PhD[1] | Natalie Hall MSc[2] | Joanna L. Hudson PhD[1] | Ken Farrington MD FRCP[2,3] | Madeleine J. Ryan Tucker MSc[4] | David Wellsted PhD[2] | Julia Jones PhD[5] | Shivani Sharma PhD[2] | Sam Norton PhD[1] | Paula Ormandy PhD[6] | Nick Palmer BSc[7] | Anthony Quinnell MB ChB[8] | Lauren Fitzgerald MSc[2] | Sophie Griffiths MSc[1] | Joseph Chilcot PhD[1]

[1]Department of Psychology, Health Psychology Section, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK

[2]School of Life and Medical Sciences, University of Hertfordshire, College Lane Campus, Hatfield, UK

[3]Renal Unit, Lister Hospital, Stevenage, UK

[4]Renal Unit, King's College Hospital, London, UK

[5]School of Health and Social Work, University of Hertfordshire, Hatfield, UK

[6]School of Health and Society, University of Salford, Salford, UK

[7]Independent PPI lead & Kidney Care UK, Alton, UK

[8]Retired Psychiatrist and PPI representative, UK

Correspondence
Joseph Chilcot, Department of Psychology, Health Psychology Section, Institute of Psychiatry, Psychology and Neuroscience, King's College London, 5th floor Bermondsey Wing, Guy's Campus, London Bridge, London SE1 9RT, USA.
Email: joseph.chilcot@kcl.ac.uk

Abstract

Background: Depression is prevalent across the spectrum of Chronic Kidney Disease and associated with poorer outcomes. There is limited evidence regarding the most effective interventions and care pathways for depression in Chronic Kidney Disease.

Objectives: To investigate how depression is identified and managed in adults with Chronic Kidney Disease.

Design: Scoping review.

Methods: Systematic search of eight databases with pre-defined inclusion criteria. Data relevant to the identification and/or management of depression in adults with Chronic Kidney Disease were extracted.

Results: Of 2147 articles identified, 860 were included. Depression was most identified using self-report screening tools ($n = 716$ studies, 85.3%), with versions of the Beck Depression Inventory ($n = 283$, 33.7%) being the most common. A total of 123 studies included data on the management of depression, with nonpharmacological interventions being more frequently studied ($n = 55$, 45%). Cognitive Behavioural Therapy ($n = 15$) was the most common nonpharmacological intervention, which was found to have a significant effect on depressive symptoms compared to controls ($n = 10$). However, how such approaches could be implemented as part of routine care was not clear. There was limited evidence for antidepressants use in people with Chronic Kidney Disease albeit in a limited number of studies.

Christina J. Pearce and Natalie Hall are joint first authors.

Funding information
The work was funded by Kidney Research UK and The Stoneygate Trust (grant reference KS_RP_006_20190919).

Conclusions: Depression is commonly identified using validated screening tools albeit differences exist in reporting practices. Evidence regarding the management of depression is mixed and requires better-quality trials of both pharmacological and nonpharmacological approaches. Understanding which clinical care pathways are used and their evidence, may help facilitate the development of kidney care specific guidelines for the identification and management of depression.

KEYWORDS
chronic kidney disease, CKD, depression, dialysis, mental health

INTRODUCTION

Across the spectrum of chronic kidney disease (CKD), depression symptoms are commonly experienced, and are associated with poorer health outcomes including all-cause mortality in people living with CKD and those receiving dialysis (Chilcot, Almond, et al., 2018; Farrokhi et al., 2014; Tsai et al., 2012). Furthermore, in people with a kidney transplant, depression is associated with graft loss and all-cause mortality (for a review see [Chilcot et al., 2014]). There is consensus in people living with kidney disease and health professionals that addressing the psychosocial impact of kidney failure is significant research priority (Manns et al., 2014).

The prevalence of self-reported or clinician rated depression in people with CKD, on dialysis or with a kidney transplant, is reported to be 26.5%, 39.3% and 26.6% (Palmer et al., 2013), respectively. Depression can be challenging to assess and diagnose due to overlapping physical symptoms of depression and kidney disease (typically uraemia) (Chilcot et al., 2008). There are validated depression screening tools with CKD specific cut-off points for case finding (Chilcot et al., 2008; Chilcot, Hudson, et al., 2018; Watnick et al., 2005), although overall there is limited research into the diagnostic accuracy of depression screening tools in people with CKD (Kondo et al., 2020).

Few well designed randomised controlled trials (RCTs) of treatments for depression in people with CKD exist, with limited evidence for the most acceptable and clinically effective treatments. Furthermore, there is also a lack of health economic modelling to determine if interventions for depression in people with CKD are cost effective.

In addition, little is known about specific care pathways for depression in CKD (e.g., is a person's mental health managed via their nephrologist or primary care provider/physician, and how this is done). Treatments such as antidepressant medication; cognitive behavioural therapy (CBT) and complementary therapies have been explored in people living with CKD (Hedayati et al., 2017; Kim et al., 2016; Natale et al., 2019), yet studies have typically been small. Recent Cochrane reviews report moderate quality evidence for cognitive behavioural therapy improving depression in those receiving dialysis, whilst evidence for antidepressant medication remains sparse and inconclusive (Natale et al., 2019; Palmer et al., 2016).

In England, The National Institute for Health and Care Excellence (NICE) guidelines were published for both depression broadly and depression in patients with chronic physical health problems in 2009 recognising the association between physical and mental health (NICE, 2009). NICE guidance recommends a stepped care model dependent on the severity of depression, but this is not specific to any given Long-Term Conditions (LTCs) (NICE, 2009). This model consists of four-steps ranging from psychoeducation (step 1) to collaborative care treatments involving use of multi-disciplinary teams, medication, and psychological therapies (step 4). Recently, NICE published implementation guidance documenting how evidence-based treatments for depression and anxiety in the context of LTCs could be delivered with the support of Improving Access to Psychological Therapy services (IAPT) (NHS England, 2018). IAPT services provided evidence-based psychological treatments at step 2 and step 3 of the stepped care model. However, clear implementation guidance outlining how and by whom NICE evidence-based treatments for the management of depression should be implemented in kidney care is lacking. The overarching aim of this scoping review was to build on the evidence basis reviewed by NICE, by investigating how depression is identified and managed in adults with CKD specifically. Although NICE guidance is specific to England, the objective of our review was to provide a broad overview of all available international evidence to better inform an understanding of how depression is identified and managed in people living with CKD. Given this scope, and the availability of meta-analyses regarding the prevalence of depression in CKD and its correlates (Chan et al., 2011; Palmer et al., 2013), this review did not attempt to formally evaluate these specific questions, rather than to describe the research landscape in which studies have approached the identification and management of depression in people living with kidney disease.

METHODS

The scoping review was guided by the Joanna Briggs Institute methodological framework for scoping reviews (Peters et al., 2020), which includes: identifying the research question; search and selection of relevant studies; charting and collating the information; summarising and reporting the results. Whilst the scoping review has several similarities with a systematic review it does not involve a quality assessment and the findings are reported in a narrative format. The inclusion and exclusion criteria along with the methods

for the review were pre-specified in a protocol which was reviewed by the research team and an external steering group. Unless otherwise specified (e.g., when talking specifically about people with a particular CKD stage, receiving dialysis or with a transplant), when we use the term 'CKD', we are using it generally to mean people living with chronic kidney disease across its entire spectrum.

Eligibility criteria

Studies were eligible for inclusion if they:

- Identified depression using either self-report, diagnostic clinical interview, or medical records in adults over the age of 18 with CKD
  AND/OR
- Described either a clinical intervention/treatment (e.g., pharmacotherapy or psychotherapy) or management (e.g., care pathway description)
- Written in English
- Where studies included mixed LTC populations findings for CKD needed to be reported separately

Studies were ineligible if they:

- Were published pre 2009 (e.g., before the NICE Depression guidelines for the management of depression in LTCs) (NICE, 2009).
- Specifically looked at acute kidney injury
- Were reviews or editorials

Information sources

The following databases: Ovid Medline, Embase, PsycINFO, Web of Science, Cochrane library, Emcare and PROSPERO were utilised to identify appropriate literature, using a systematic title and abstract search with predefined inclusion criteria. A list of search terms was initially generated and tested by the research team and reviewed by the external steering group to ensure that they would cover all necessary eligibility criteria. An example of the search used for Ovid Medline is provided (Table 1). Limits were applied to the searches for data published after the 2009 publication of the NICE guidelines, publications in the English language and in human studies. The initial database searches were conducted on the 20th of January 2022.

Selection of sources and data charting process

The search results were initially title and abstract screened for eligibility by a team of independent coders (C. P., N. H., J. C., K. F., S. N., J. H., M. T. and S. G.) using the freely available web-tool Rayyan to collate records, check for duplicates and screen the records. The Rayyan blinding feature allowed each coder to review the records independently before discussing and resolving any conflicts. All results selected for inclusion from the title and abstract search were of relevance to the identification and/or management of depression in CKD. Where the full paper had not been included with the abstract in the extraction from the databases, other methods of obtaining the full text were attempted including contacting the authors. Corresponding authors were contacted via email and ResearchGate.net. Over 10% of the team's decisions ($n = 270$ across the coders allocations) were checked by NH who was blinded to their decisions. All conflicting codes were discussed and resolved with C. P. and J. C. (the principal investigator).

A data extraction chart adapted from colleagues work in collaborative care (Coventry et al., 2014) was used to record data from each record. Data were extracted by a team of coders (C. P., N. H., J. C., K. F., J. H., M. T., A. Q., S. G. and L. F.). Data extracted included: Type of study (cross-sectional, longitudinal; interventional etc); Design (e.g., randomised controlled trial, case-control etc); Country where the study took place; CKD modality/stage; depression assessment method used (e.g.,screen vs. diagnostic enquiry) and specific depression symptoms tools used including the screening cut-offs employed (e.g., Patient Health Questionnaire-9 [PHQ-9; Kroenke et al, 2001], Beck Depression Inventory-II [BDI; Beck et al, 1996], etc). For intervention/management studies the type of intervention treatment was extracted (e.g., pharmacotherapy or psychotherapy) and we recorded whether any depression assessment was conducted as a primary or secondary outcome. Given the aims of this review, its intended rapid timeline, and the ultimate size of the evidence pool, participant information (e.g., age, gender, inclusion and exclusion criteria, ethnicity) was not extracted. Data extraction was undertaken by the authors using an excel table stored within Microsoft Teams. The data were recorded independently with 10% checks completed for data accuracy.

Synthesis of results

Data from studies of people living with CKD were summarised by the three main study types; (1) studies that included the identification of

TABLE 1 Search strategy used in Ovid Medline

Search component	Search terms
#1 CKD and (Identification and management) and depression	([depress* or distress] and [CKD or haemodialyses or haemodialysis or dialysis or kidneyADJfailure or renalADJfailure or kidneyADJdisease or renalADJdisease]).tw. not conference abstract.pt. not conference paper.pt.
#2 Limit English	Limit #1 to All adults
#3 Limit English	Limit #2 to English language
#4 Limit Humans	Limit #3 to Humans
#5 Limit Dates	Limit #4 to yr + '2010–2022'

depression; (2) studies that included both the identification of depression and treatments or management strategies for depression and (3) studies that included treatments or management strategies for depression. All data are reported in a narrative format.

Patient and public involvement (PPI)

The scoping review search strategy was discussed with our PPI group as part of broader programme of research, composed of people with lived experience of kidney disease. One PPI group member, who is a retired psychiatrist and co-author (A. Q.) assisted with study selection and data extraction.

RESULTS

Selection of sources of evidence

A total of 2147 articles were identified using search criteria. Seventy-two duplicate papers were removed, and 1081 others excluded after assessment of the title and abstract, leaving 994 for full text review. Of the 994, a further 134 papers were excluded leaving 860 in the final evidence synthesis. Of these 860, 737 included information on the identification of depression in CKD, 102 on both the identification and management of depression, and 21 on the management of depression. A PRISMA flow diagram outlines the selection and exclusion of the evidence in Figure 1. A list of all the papers selected for full text review are displayed in Supporting Information: File 1a. A full reference list for both identification and management papers are shown in Supporting Information: Files 1b and 1c.

Identification of depression: Study characteristics

A total of 839 studies included data on the identification of depression (including the 102 studies that also had information on the identification and management of depression). A descriptive summary of these studies is presented in Table 2. Supporting Information: File 2 summarises the number of studies by country. Over half of studies include people receiving in-centre HD ($n = 460$[‡], 54.8%), with only 17 (2%; [Anvar-Abnavi & Bazargani, 2010; Brekke et al., 2017; K.-H. Chen et al., 2014; Danuser et al., 2017; Müller et al., 2020, Griva et al., 2012; Jones et al., 2020; Myaskovsky et al., 2012; Nohre et al., 2020; Schulz et al., 2014, 2017; Spencer et al., 2011; Szeifert et al., 2010; Zelle et al., 2012; Zheng et al., 2014; Zimmermann et al., 2016]) identifying depression in kidney transplant recipients. The most common type of depression assessment method was with a self-report tool ($n = 716$. 85.3%), with only 58 of studies (6.9%) including a clinical assessment/interview (either on its own or combined with a self-reported assessment). Of the 58 studies which employed diagnostic assessment, 72% ($n = 41$), were based upon DSM-IV criteria for major depressive disorder. Only 20 studies (2.4%), were identified as validation studies which evaluated the performance of screening cut-off tools against diagnostic standards.

The most common self-report tool used was the Beck Depression Inventory ($n = 283$, 33.7%) however there were inconsistencies in reporting which version of the tool was used (either BDI-I or BDI-II), often accompanied by referencing inconsistencies. There was wide variation in the cut-off score used to indicate potential depression and evaluate levels of symptom severity, ranging from ≥5 to ≥21. However, there were also inconsistencies in how the cut-offs were reported (e.g., >15 vs. ≥16). The most common cut-off employed was ≥16 ($n = 39$, 13.0% of studies), which yielded an average screening prevalence of approximately 34%. In studies which did not include selected samples (i.e., in patients over 65), prevalence estimates ranged between 24.8% to 91.2% (see Supporting Information: File 1). Similar cut-off reporting issues were evident for the Hospital Anxiety and Depression Scale, with the most common cut-off score used on the depression component being ≥8 (60 studies, 37.9%), which an average prevalence of approximately 43%. The PHQ-9 was more consistently reported with the most common cut-off score being ≥10 ($n = 22$, 46.8%), yielding an average prevalence of 23%.

Management of depression: Study characteristics

A total of 123 studies included data on the management of depression (including 102 studies that also had information on identification and management of depression). A descriptive summary of these studies is presented in Table 3. The average sample size across the identified studies was 775 (median = 66.5). However, the mean was unduly influenced by a large longitudinal cohort study, so after excluding, the average sample size was 107 (median = 66). Most management studies focused on people receiving in-centre HD ($n = 91$, 74%). The most common type of depression assessment in the management studies was with the BDI (I or II; $n = 46$, 26.5%). The most common clinical rating tool was the HAM-D ($n = 8$, 5.3%). Depression was the primary outcome in 81 (67%) of the studies.

Nonpharmacological studies were the most common interventions studied overall ($n = 55$, 45%). Talk therapy was the primary intervention in 33 studies (27%), with two studies combining talk therapy and PA/exercise (2%). Eleven studies were pharmacological (9%) (Atalay et al., 2010; Biyik et al., 2013; J. Chen & Xie, 2018; Dashti-Khavidaki et al., 2014; Friedli et al., 2017; Guirguis et al., 2020; Hedayati et al., 2017; Kauffman et al., 2021; Ostadmohammadi et al., 2020; Taraz et al., 2013; Tol et al., 2010), with a further six combining pharmacological and nonpharmacological interventions (5%; [Giannaki et al., 2013; Hosseini et al., 2012; Hu & Shen, 2021; Mehrotra et al., 2019; Yang et al., 2021; Zhao et al., 2017]). Alternative/complementary interventions were evaluated in 21 (17%) studies, although their results regarding treatment efficacy were

[‡]n here refers to the number of studies unless otherwise defined.

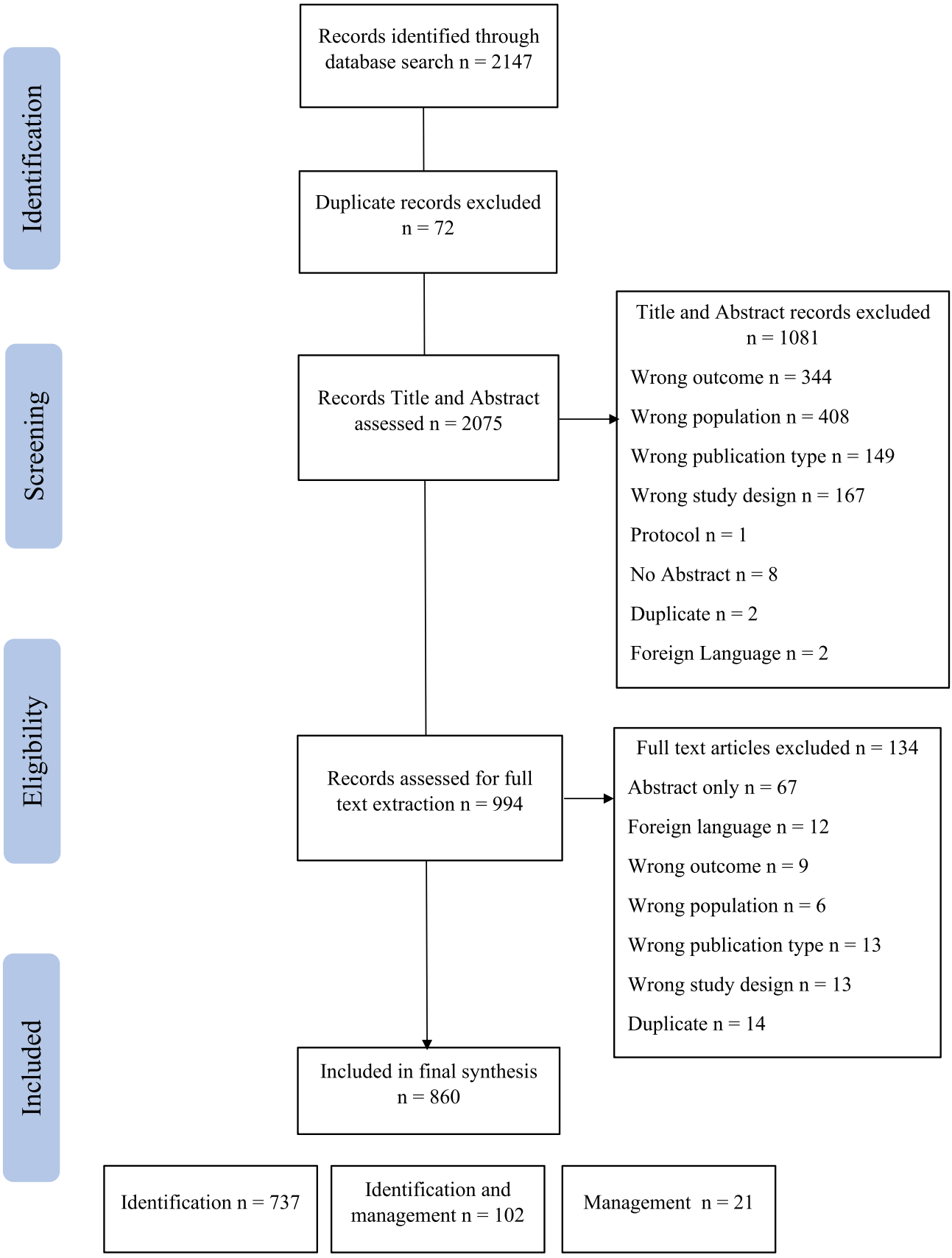

FIGURE 1 PRISMA Flow chart of study selection process

TABLE 2 Summary of depression identification data from 839 studies

	n	%
CKD stage/modality		
CKD (1–5)	100	12
In-centre dialysis (HD)	460	54.8
Home dialysis (HD)	6	0.7
Peritoneal dialysis (all)	41	4.9
Kidney transplant	17	2.0
Mixed sample	214	25.5
Not clear	1	0.1
Study design		
Audit	10	1.2
Case-control	34	4.1
Cross-sectional	541	64.5
Longitudinal	108	12.9
Mixed methods	12	1.4
Non-randomised trial	24	2.9
RCT	73	8.7
Validity study	20	2.4
Qualitative	8	1.0
Other	9	1.1
Assessment of depression		
Self-report screening tool	716	85.3
Diagnostic interview/assessment	13	1.5
Clinician rating tool	18	2.1
Both self-report/clinician rating tool and diagnostic interview	45	5.4
Medical records	26	3.1
Unclear	21	2.5
Primary screening/severity tool (self-report or clinical)		
BDI (I or II)	283	33.7
HADS	158	18.8
PHQ-9	47	5.6
PHQ-ADS	2	0.2
Geriatric depression scale	37	4.4
CES-D	65	7.7
Zung depression scale	26	3.1
SF-12/36	6	0.7
Multiple	31	3.6
Non-validated	9	1.0
Other validated	104	12.4
None	9	1.1
Unclear	60	7.2
Continent		
North America	120	14.3
Europe	288	34.3
South America	65	7.7
Asia	310	36.9
Africa	20	2.4
Australasia	22	2.6
Multinational	9	1.1
Unclear	5	0.6

mixed and studies were generally of low quality and lacked details regarding potential harms.

Overall, 77 studies (62%) reported statistically significant findings. A summary of information on who delivered the intervention and follow-up outcome assessments is shown in Supporting Information: File 3. Notably in 44 (36%) of the studies, it was not clear who delivered the intervention. Furthermore, in 69 (56%), it was unclear who conducted the outcome assessments.

To date, the largest antidepressant RCT in people living with CKD ($n = 201$), compared Sertraline with a placebo (Hedayati et al., 2017). Over a 12 week period, no significant differences in depressive symptoms, were observed between the treatment arms (Hedayati et al., 2017). However, over 14,000 people were initially screened for depressive symptoms, which ultimately led to 201 being randomised, highlighting issues around feasibility and acceptability of conducting such trials in CKD. Similar issues were documented in a feasibility RCT of Sertraline (vs. placebo) in people receiving HD, which also found no significant or clinically meaningful differences in depression symptoms between arms (Friedli et al., 2017), However this small RCT was not powered to detect efficacy (Friedli et al., 2017). Similar issues of scale and feasibility have also been highlighted in other trials, including studies of online CBT which report that 26% of participants found screening for psychological distress (depression and anxiety) unacceptable (Hudson et al., 2017).

Of the 33, nonpharmacological interventions defined as "talking therapies"; CBT was the most common therapy method used ($n = 15$; [Al Saraireh et al., 2018; Bahmani et al., 2015; Bargiel-Matusiewicz et al., 2019; Chan et al., 2016; J. Chen & Xie, 2018; Cukor et al., 2014; Griva et al., 2018; Hou et al., 2014; Hudson et al., 2017; Lerma et al., 2017; Picariello et al., 2021; Sohn et al., 2018; Valsaraj et al., 2016; Weiner et al., 2010; Zhianfar et al., 2020]. Most CBT interventions [$n = 12$] [Bahmani et al., 2015; Bargiel-Matusiewicz et al., 2019; Chan et al., 2016; J. Chen & Xie, 2018; Cukor et al., 2014; Griva et al., 2018; Hou et al., 2014; Lerma et al., 2017; Picariello et al., 2021; Sohn et al., 2018; Valsaraj et al., 2016; Zhianfar et al., 2020]) reported a statistically significant effect of CBT on depression outcomes when compared with control arms ($n = 10$;

TABLE 3 Summary of depression management data from 123 studies

	n	%
CKD stage/modality		
CKD (1–5)	20	16.3
In-centre dialysis (HD)	91	74
Home dialysis (HD or PD)	6	4.9
Kidney transplant	0	0
Unclear	6	4.9
Study design		
Randomised control trial	70	57
Non-randomised trial	17	14
Single arm trial	16	13
Audit	1	1
Quality improvement	3	2
Other	16	13
Assessment of depression[a]		
BDI (I or II)	46	26.5
BDI-SF	3	2.4
HADS	23	18.2
PHQ-9	12	7.9
PHQ-4	1	0.7
CES-D	3	2.0
Zung depression scale	11	7.2
SF-12/36	4	2.6
KDQOL-26	3	2.0
QIDS-C16	1	0.7
HAM-D	8	5.3
MADRS	2	1.3
None	1	0.7
Unclear/no measurement	3	2.0
Other	31	20.3
Depression as a primary or secondary outcome		
Primary	81	67
Secondary	30	24
Not clear/not measured	11	9
Intervention type		
Nonpharmacological (PA/exercise)	20	16
Nonpharmacological (talk therapies)	33	27
Mixed nonpharmacological (e.g., CBT and exercise)	2	2
Pharmacological	11	9
Combined pharmacological and non- pharmacological	6	5
Alternative/complementary	21	17
Medical (e.g., changes to dialysis/care)	24	20
Not clear/not an intervention	6	5
Findings		
Significant	75	61
Nonsignificant	20	16
Mixed	6	5
Unclear/not-relevant	21	17

[a]Some used multiple tools.

[Bahmani et al., 2015; Bargiel-Matusiewicz et al., 2019; J. Chen & Xie, 2018; Cukor et al., 2014; Griva et al., 2018; Hou et al., 2014; Lerma et al., 2017; Picariello et al., 2021; Valsaraj et al., 2016; Zhianfar et al., 2020]) or in non-randomised pre-post studies ($n = 2$; [Chan et al., 2016; Sohn et al., 2018]). Of the three studies that reported no statistically significant effects of CBT; one study compared CBT with a psychoeducation self-management programme as the active comparator arm (Al Saraireh et al., 2018), a second study did not have a "no treatment comparator arm" and instead compared online CBT only with online CBT plus therapist support (Hudson et al., 2017), although this was a feasibility study so was not powered. The final study reported statistically significant effects of the intervention in a pre-post design but only among those who adhered to the CBT (Weiner et al., 2010). On balance CBT appears to be an effective treatment for the management of depression in CKD and complies with NICE treatment recommendations. However, most research has been conducted in those receiving HD and often in small scale RCTs. How well these findings translate into routine kidney care is not known.

DISCUSSION

Summary of evidence

This scoping review sought to describe the approach for how depression is identified, managed, and treated in adults with CKD. Specifically, evidence was reviewed following the publication of the NICE clinical guidance for depression in adults with a chronic physical health problem (2009) to provide a broad overview of all available international evidence to better inform our understanding of how depression is identified and managed in people living with CKD.

Our review demonstrated the considerable size of the literature. The initial search captured 2147 articles which subsequently lead to the synthesis of 860 papers. The majority of studies included information of the identification of depression in CKD, ($n = 737$), with 102 investigating both the identification and management of depression, and 21 on the management of depression alone. Across study types, people receiving in-centre HD were most studied. There

was a considerable lack of studies investigating depression in kidney transplant recipients, with no interventional trials identified. This is concerning given that depression is common in people living with a kidney transplant and associated with adverse clinical outcomes (Chilcot et al., 2014).

Across study types, the Beck Depression Inventory was the most employed screening tool and has been shown to have good validity in people in CKD (Kondo et al., 2020). However, we observed inconsistencies in the reporting of this questionnaire, including the version and correct citation. Furthermore, a variety of cut-offs were employed across studies, with inconsistencies evident in the reporting of cut-off scores and their validity. Our finding support a past systematic review which also highlights these issues (Kondo et al., 2020), so we and recommend that future research address these reporting inconsistencies. Nevertheless, we observed a similar estimated prevalence of probable depression when using a cut-off of ≥16 (34%), to those reported elsewhere (Palmer et al., 2013). Although it was not the aim of this scoping review to report the prevalence of depression across assessment types, it was evident that estimates varied within and across tools, given heterogeneity in study methodologies and tool specific cut-offs score. Furthermore, although the clinical case for depression screening in CKD is clear, few studies have investigated how this is done as part of routine kidney care and the overwhelming number of studies fail to mention any relevant local or national guidelines. Within the UK for example, we do not know how renal health professionals identify and manage depression, how referrals are made and to whom, whether treatment and outcomes are monitored, and what guidelines inform practice (despite the availability of the NICE guidelines). There are also pragmatic considerations. Specifically, if self-report case finding tools are used for scale and efficiency some require the payment of license fees as is the case for the BDI. In IAPT services in England, the PHQ-9 is used because it is freely available and a cut-off of ≥10 is commonly used to determine people who are considered to be at clinical caseness and appropriate for clinical intervention. Deciding on the cut-offs used to determine who warrants clinical intervention requires careful consideration to reduce the possibility of false positives whilst also ensuring those in need of support are correctly found with care pathways in place to support them. Given these unknowns we are currently undertaking a study of practice patterns for the identification of depression in UK renal centres, which is also aiming to understand decision processes surrounding treatment and referral mechanisms that are experienced and utilised by renal care teams (The MoodMaps study).

Regarding management and treatment, CBT was reported to be effective in several studies (Al Saraireh et al., 2018; Mehrotra et al., 2019; Valsaraj et al., 2016) although there are some questions about the feasibility of delivery in constrained health service settings. Further research needs to understand how to best implement psychological therapies as part of route care that is acceptable and tailored to the needs of the diverse CKD population, including the role of computerised approaches.

Antidepressants (most commonly Sertraline) showed no reliable benefits across studies and adverse events were common. Despite these findings, antidepressant use appears high in people living with CKD (Friedli et al., 2017; Van Oosten et al., 2021), and concerns have been raised about some agents' potential for QT prolongation and associated sudden cardiac death (Assimon et al., 2019; Chilcot & Farrington, 2019). However, it is important to note that few RCTS of antidepressants have been conducted in people living with CKD, and trials have generally needed to screen a very high number of patients, partly due to patient selection (e.g., never having been on an antidepressant; screening thresholds etc). Further better quality RCTs of anti-depressants are therefore needed in CKD that utilised alternative designs (including drug wash out trials, cross-over designs and combination with talk therapies) to better understand their clinical utility and safety.

Complementary and alternative therapies were reported as having mixed results on depression and studies were of low quality and lacked details regarding potential harms. Additionally renal providers have reported not always managing depression symptoms and believing the responsibility for treatment of depression is with primary care (Green et al., 2012).

Although not the focus of the current scoping review, it was evident in the synthesis that few studies had representative samples in relation to ethnic or cultural diversity despite an estimated five-fold higher risk of ESRD in certain minority ethnic communities compared to white heritage patients (Lightstone et al., 1995). Furthermore, it was not clear if or how research methods and tools have been adapted accordingly (e.g., language barriers). In recognition of this observation, we are currently undertaking a secondary scoping review addressing the suitability and practices of cultural consideration and adaptions with respect to the identification and management of depression in CKD.

Strengths and limitations

Due to limited resources and the rapid nature of this review, a systematic search was conducted for this scoping review using only abstracts and titles searches. When using a multi-search option over half of the records appeared to be irrelevant as kidney health is often mentioned in relation to depression rather than as the focus of the paper. However, a large number of papers were found, which exceeded the authors expectations, with a good range of papers discussing both identification and management of depression in CKD. Due to the spoken languages of the research team the search criteria were also limited to full-texts available in the English language, however only 14 records were excluded. Finally, the scoping review was limited to a narrative synthesis to describe the landscape of how depression is identified and managed therefore meta-analysis and formal quality assessment was beyond our scope; and covered in relatively recent Cochrane reviews (Natale et al., 2019; Palmer et al., 2016).

Future research

Whilst the majority of studies have utilised depression screening tools (often with the BDI) more research is required to validate more recent measures such as the PHQ-9 and understand how they perform across modalities. Efforts to develop screening protocols at key points of kidney care are needed to increase identification. Furthermore, measures that are culturally adapted, valid and appropriate are a needed and are currently being evaluated in a separate scoping review of these complex issues.

More high-quality randomised control trials of both antidepressants and nonpharmacological interventions (including combined approaches) for depression in people with CKD are needed. Furthermore, efforts are required to ensure interventions are both acceptable and feasible, particularly given the high numbers of patients needed to be approach/screened in some trials. Research exploring current practice patterns is limited and is required if we are to better understand how we implement screening and interventional practices into routine kidney care.

CONCLUSIONS

In conclusion, the identification of depression is commonly evaluated using validated screening tools with appropriate renal specific cut-off scores. The more rigorous RCT studies show no beneficial effect of the use of antidepressants for use in patients with CKD, however larger more robust trials are needed, including studies considering the withdrawal of anti-depressants. Psychological therapies have been more widely studied with moderate evidence regarding efficacy and acceptability. Understanding national clinical practice patterns may help facilitate the development of renal specific guidelines for the identification and management of depression in CKD.

AUTHOR CONTRIBUTIONS

The scoping reviews aims, and procedure was designed by all authors. Christina J. Pearce and Natalie Hall led the literature review and data extraction with input from Joanna L. Hudson, Ken Farrington, and Joseph Chilcot. Data interpretation involved all authors who also reviewed the paper and approved the submission.

ACKNOWLEDGEMENTS

The research team would like to express our thanks to members of the study patient and public involvement group and steering group. The work was funded by Kidney Research UK and The Stoneygate Trust (grant reference KS_RP_006_20190919).

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Papers used in this review are listed in the Supporting Information.

ORCID

Ken Farrington http://orcid.org/0000-0001-8862-6056
Julia Jones http://orcid.org/0000-0003-3221-7362
Joseph Chilcot http://orcid.org/0000-0001-6427-4690

REFERENCES

Al Saraireh, F.A., Aloush, S.M., Al Azzam, M. & Al Bashtawy, M. (2018) The effectiveness of cognitive behavioral therapy versus psychoeducation in the management of depression among patients undergoing haemodialysis. *Issues in Mental Health Nursing*, 39, 514–518.

Anvar-Abnavi, M. & Bazargani, Z. (2010) Prevalence of anxiety and depression in Iranian kidney transplant recipients. *Neurosciences (Riyadh, Saudi Arabia)*, 15, 254–257.

Assimon, M.M., Brookhart, M.A. & Flythe, J.E. (2019) Comparative cardiac safety of selective serotonin reuptake inhibitors among individuals receiving maintenance hemodialysis. *Journal of the American Society of Nephrology*, 30, 611–623.

Atalay, H., Solak, Y., Biyik, M., Biyik, Z., Yeksan, M., Uguz, F. et al. (2010) Sertraline treatment is associated with an improvement in depression and health-related quality of life in chronic peritoneal dialysis patients. *International Urology and Nephrology*, 42, 527–36.

Bahmani, B., Motamed Najjar, M., Sayyah, M., Shafi-Abadi, A. & Haddad Kashani, H. (2015) The effectiveness of cognitive-existential group therapy on increasing hope and decreasing depression in Women-Treated with haemodialysis. *Global Journal of Health Science*, 8, 219–225.

Bargiel-Matusiewicz, K., Łyś, A. & Stelmachowska, P. (2019) The positive influence of psychological intervention on the level of anxiety and depression in dialysis patients: a pilot study. *The International Journal of Artificial Organs*, 42, 167–174.

Beck A.T., Steer R.A. & Brown G.K. (1996) *Beck depression inventory—2nd edition manual*. San Antonio: the Psychological Corporation.

Biyik, Z., Solak, Y., Atalay, H., Gaipov, A., Guney, F. & Turk, S. (2013) Gabapentin versus pregabalin in improving sleep quality and depression in hemodialysis patients with peripheral neuropathy: a randomized prospective crossover trial. *International Urology and Nephrology*, 45, 831–7.

Brekke, F.B., Waldum-Grevbo, B., Von Der Lippe, N. & Os, I. (2017) The effect of renal transplantation on quality of sleep in former dialysis patients. *Transplant International*, 30, 49–56.

Chan, R., Dear, B.F., Titov, N., Chow, J. & Suranyi, M. (2016) Examining internet-delivered cognitive behaviour therapy for patients with chronic kidney disease on haemodialysis: a feasibility open trial. *Journal of Psychosomatic Research*, 89, 78–84.

Chan, R., Steel, Z., Brooks, R., Heung, T., Erlich, J., Chow, J. et al. (2011) Psychosocial risk and protective factors for depression in the dialysis population: a systematic review and meta-regression analysis. *Journal of Psychosomatic Research*, 71, 300–310.

Chen, J. & Xie, S. (2018) Agomelatine versus paroxetine in treating depressive and anxiety symptoms in patients with chronic kidney disease. *Neuropsychiatric Disease and Treatment*, 14, 547–552.

Chen, K.-H., Huang, H.-L., Wang, Y.-W., Weng, L.-C., Chiang, Y.-J. & Chou, H.-F. (2014) Factors determining social function of patients after renal transplantation in Taiwan. *Transplantation Proceedings*, 46, 481–483.

Chilcot, J., Almond, M.K., Guirguis, A., Friedli, K., Day, C., Davenport, A. et al. (2018) Self-reported depression symptoms in haemodialysis patients: bi-factor structures of two common measures and their association with clinical factors. *General Hospital Psychiatry*, 54, 31–36.

Chilcot, J. & Farrington, K. (2019) The case for selective withdrawal of antidepressants in patients with advanced kidney disease. *Journal of the American Society of Nephrology*, 30, 1339–1340.

Chilcot, J., Hudson, J.L., Moss-Morris, R., Carroll, A., Game, D., Simpson, A. et al. (2018) Screening for psychological distress using the patient

health questionnaire anxiety and depression scale (PHQ-ADS): initial validation of structural validity in dialysis patients. *General Hospital Psychiatry*, 50, 15–19.

Chilcot, J., Spencer, B.W.J., Maple, H. & Mamode, N. (2014) Depression and kidney transplantation. *Transplantation*, 97, 717–721.

Chilcot, J., Wellsted, D., Da Silva-Gane, M. & Farrington, K. (2008) Depression on dialysis. *Nephron Clinical Practice*, 108, c256–c264.

Coventry, P.A., Hudson, J.L., Kontopantelis, E., Archer, J., Richards, D.A., Gilbody, S. et al. (2014) Characteristics of effective collaborative care for treatment of depression: a systematic review and meta-regression of 74 randomised controlled trials. *PLoS One*, 9, e108114.

Cukor, D., Ver Halen, N., Asher, D.R., Coplan, J.D., Weedon, J., Wyka, K.E. et al. (2014) Psychosocial intervention improves depression, quality of life, and fluid adherence in hemodialysis. *Journal of the American Society of Nephrology*, 25, 196–206.

Danuser, B., Simcox, A., Studer, R., Koller, M. & Wild, P. (2017) Employment 12 months after kidney transplantation: an in-depth bio-psycho-social analysis of the Swiss transplant cohort. *PLoS One*, 12, e0175161.

Dashti-Khavidaki, S., Gharekhani, A., Khatami, M.-R., Miri, E.-S., Khalili, H., Razeghi, E. et al. (2014) Effects of omega-3 fatty acids on depression and quality of life in maintenance hemodialysis patients. *American Journal of Therapeutics*, 21, 275–287.

Farrokhi, F., Abedi, N., Beyene, J., Kurdyak, P. & Jassal, S.V. (2014) Association between depression and mortality in patients receiving long-term dialysis: a systematic review and meta-analysis. *American Journal of Kidney Diseases*, 63, 623–635.

Friedli, K., Guirguis, A., Almond, M., Day, C., Chilcot, J., Da Silva-Gane, M. et al. (2017a) Sertraline versus placebo in patients with major depressive disorder undergoing hemodialysis: a randomized, controlled feasibility trial. *Clinical journal of the American Society of Nephrology: CJASN*, 12, 280–286.

Giannaki, C.D., Sakkas, G.K., Karatzaferi, C., Hadjigeorgiou, G.M., Lavdas, E., Kyriakides, T. et al. (2013) Effect of exercise training and dopamine agonists in patients with uremic restless legs syndrome: a six-month randomized, partially double-blind, placebo-controlled comparative study. *BMC Nephrology*, 14, 194.

Green, J.A., Mor, M.K., Shields, A.M., Sevik, M.A., Palevsky, P.M., Fine, M.J. et al. (2012) Renal provider perceptions and practice patterns regarding the management of pain, sexual dysfunction, and depression in hemodialysis patients. *Journal of Palliative Medicine*, 15, 163–167.

Griva, K., Davenport, A., Harrison, M. & Newman, S.P. (2012) Non-adherence to immunosuppressive medications in kidney transplantation: intent vs. forgetfulness and clinical markers of medication intake. *Annals of Behavioral Medicine*, 44, 85–93.

Griva, K., Lam, K.F.Y., Nandakumar, M., Ng, J.H., Mcbain, H. & Newman, S.P. (2018) The effect of brief self-management intervention for hemodialysis patients (HED-SMART) on trajectories of depressive and anxious symptoms. *Journal of Psychosomatic Research*, 113, 37–44.

Guirguis, A., Chilcot, J., Almond, M., Davenport, A., Wellsted, D. & Farrington, K. (2020) Antidepressant usage in haemodialysis patients: evidence of sub-optimal practice patterns. *Journal of Renal Care*, 46, 124–132.

Hedayati, S.S., Gregg, L.P., Carmody, T., Jain, N., Toups, M., Rush, A.J. et al. (2017) Effect of sertraline on depressive symptoms in patients with chronic kidney disease without dialysis dependence: the CAST randomized clinical trial. *Journal of the American Medical Association*, 318, 1876–1890.

Hosseini, S.H., Espahbodi, F. & Mirzadeh Goudarzi, S.M. (2012) Citalopram versus psychological training for depression and anxiety symptoms in hemodialysis patients. *Iranian Journal of Kidney Diseases*, 6, 446–451.

Hou, Y., Hu, P., Liang, Y. & Mo, Z. (2014) Effects of cognitive behavioral therapy on insomnia of maintenance hemodialysis patients. *Cell Biochemistry and Biophysics*, 69, 531–537.

Hu, L. & Shen, L. (2021) Application of team STEPPS model combined with PDCA nursing model in nursing management of hemodialysis room. *International Journal of Clinical and Experimental Medicine*, 14, 463–473.

Hudson, J.L., Moss-Morris, R., Norton, S., Picariello, F., Game, D., Carroll, A. et al. (2017) Tailored online cognitive behavioural therapy with or without therapist support calls to target psychological distress in adults receiving haemodialysis: a feasibility randomised controlled trial. *Journal of Psychosomatic Research*, 102, 61–70.

Jones, J., Damery, S., Allen, K., Nicholas, J., Baharani, J. & Combes, G. (2020) 'You have got a foreign body in there': renal transplantation, unexpected mild-to-moderate distress and patients' support needs: a qualitative study. *BMJ Open*, 10, e035627.

Kauffman, K.M., Dolata, J., Figueroa, M., Gunzler, D., Huml, A., Pencak, J. et al. (2021) Higher dose weekly fluoxetine in hemodialysis patients: a case series report. *The International Journal of Psychiatry in Medicine*, 56, 3–13.

Kim, K.H., Lee, M.S., Kim, T.H., Kang, J.W., Choi, T.Y. & Lee, J.D. (2016) Acupuncture and related interventions for symptoms of chronic kidney disease. *Cochrane Database of Systematic Reviews*, 2016, CD009440.

Kondo, K., Antick, J.R., Ayers, C.K., Kansagara, D. & Chopra, P. (2020) Depression screening tools for patients with kidney failure: a systematic review. *Clinical Journal of the American Society of Nephrology*, 15, 1785–1795.

Kroenke, K., Spitzer, R.L. & Williams, J.B. (2001) The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606–613.

Lerma, A., Perez-Grovas, H., Bermudez, L., Peralta-Pedrero, M.L., Robles-García, R. & Lerma, C. (2017) Brief cognitive behavioural intervention for depression and anxiety symptoms improves quality of life in chronic haemodialysis patients. *Psychology and Psychotherapy: Theory, Research and Practice*, 90, 105–123.

Lightstone, L., Rees, A.J., Tomson, C., Walls, J., Winearls, C.G. & Feehally, J. (1995) High incidence of end-stage renal disease in Indo-Asians in the UK. *QJM: Monthly Journal of the Association of Physicians*, 88, 191–195.

Manns, B., Hemmelgarn, B., Lillie, E., Dip, S.C.P.G., Cyr, A., Gladish, M. et al. (2014) Setting research priorities for patients on or nearing dialysis. *Clinical Journal of the American Society of Nephrology*, 9, 1813–1821.

Mehrotra, R., Cukor, D., Unruh, M., Rue, T., Heagerty, P., Cohen, S.D. et al. (2019) Comparative efficacy of therapies for treatment of depression for patients undergoing maintenance hemodialysis: a randomized clinical trial. *Annals of Internal Medicine*, 170, 369–379.

Müller, H.H.O., Lücke, C., Englbrecht, M., Wiesener, M.S., Siller, T., Eckardt, K.U. et al. (2020) Kidney-transplant patients receiving living- or dead-donor organs have similar psychological outcomes (findings from the PI-KT study). *Mental Illness*, 12, 17–22. https://doi.org/10.1108/MIJ-10-2019-0002

Myaskovsky, L., Almario Doebler, D., Posluszny, D.M., Dew, M.A., Unruh, M., Fried, L.F. et al. (2012) Perceived discrimination predicts longer time to be accepted for kidney transplant. *Transplantation*, 93, 423–429.

Natale, P., Palmer, S.C., Ruospo, M., Saglimbene, V.M., Rabindranath, K.S. & Strippoli, G.F. (2019) Psychosocial interventions for preventing and treating depression in dialysis patients. *Cochrane Database of Systematic Reviews*, 12, CD004542.

NHS England. (2018) *The improving access to psychological therapies (IAPT) pathway for people with long-term physical health conditions and medically unexplained symptoms*. London: National Collaborating Centre for Mental Health.

NICE. (2009). *Clinical guideline CG91: Depression in adults with a chronic physical health problem: recognition and management*. London: National Institute for Health and Care Excellence.

Nohre, M., De Zwaan, M., Schieffer, E., Hanke, A., Pape, L., Schiffer, L. et al. (2020) Obesity after kidney transplantation-results of a KTx360degree substudy. *Frontiers in Psychiatry*, 11, 399.

Ostadmohammadi, V., Soleimani, A., Bahmani, F., Aghadavod, E., Ramezani, R., Reiter, R.J. et al. (2020) The effects of melatonin

supplementation on parameters of mental health, glycemic control, markers of cardiometabolic risk, and oxidative stress in diabetic hemodialysis patients: a randomized, double-blind, placebo-controlled trial. *Journal of Renal Nutrition*, 30, 242–250.

Palmer, S., Vecchio, M., Craig, J.C., Tonelli, M., Johnson, D.W., Nicolucci, A. et al. (2013) Prevalence of depression in chronic kidney disease: systematic review and meta-analysis of observational studies. *Kidney International*, 84, 179–191.

Palmer, S.C., Natale, P., Ruospo, M., Saglimbene, V.M., Rabindranath, K.S., Craig, J.C. et al. (2016) Antidepressants for treating depression in adults with end-stage kidney disease treated with dialysis. *Cochrane Database of Systematic Reviews*, 2016, CD004541.

Peters, M.D.J., Godfrey, C., Mcinerney, P., Munn, Z., Tricco, A.C. & Khalil, H. (2020) Chapter 11: scoping reviews (2020 version). In: Aromataris, E., & Munn, Z. (Eds.), *JBI Manual For Evidence Synthesis*, *JBI*, 2020. Available from https://doi.org/10.46658/JBIMES-20-01

Picariello, F., Moss-Morris, R., Norton, S., Macdougall, I.C., Da silva-Gane, M., Farrington, K. et al. (2021) Feasibility trial of cognitive behavioral therapy for fatigue in hemodialysis (BReF intervention). *Journal of Pain and Symptom Management*, 61, 1234–1246.

Schulz, T., Niesing, J., Homan van der Heide, J.J., Westerhuis, R., Ploeg, R.J. & Ranchor, A.V. (2014) Great expectations? Pre-transplant quality of life expectations and distress after kidney transplantation: a prospective study. *British Journal of Health Psychology*, 19, 823–838.

Schulz, T., Niesing, J., Homan van der Heide, J.J., Westerhuis, R., Ploeg, R.J., Ranchor, A.V. et al. (2017) Changes of perceived control after kidney transplantation: a prospective study. *Journal of Advanced Nursing*, 73, 1712–1721.

Sohn, B.K., Oh, Y.K., Choi, J.S., Song, J., Lim, A., Lee, J.P. et al. (2018) Effectiveness of group cognitive behavioral therapy with mindfulness in end-stage renal disease hemodialysis patients. *Kidney Research and Clinical Practice*, 37, 77–84.

Spencer, B.W.J., Chilcot, J. & Farrington, K. (2011) Still sad after successful renal transplantation: are we failing to recognise depression? An audit of depression screening in renal graft recipients. *Nephron. Clinical practice*, 117, c106–12.

Szeifert, L., Molnar, M.Z., Ambrus, C., Koczy, A.B., Kovacs, A.Z., Vamos, E.P. et al. (2010) Symptoms of depression in kidney transplant recipients: a cross-sectional study. *American Journal of Kidney Diseases*, 55, 132–140.

Taraz, M., Khatami, M.-R., Dashti-Khavidaki, S., Akhonzadeh, S., Noorbala, A.-A., Ghaeli, P. et al. (2013) Sertraline decreases serum level of interleukin-6 (IL-6) in hemodialysis patients with depression: results of a randomized double-blind, placebo-controlled clinical trial. *International Immunopharmacology*, 17, 917–923.

Tol, H., Atalay, H., Guney, I., Selcuk, N.Y., Tonbul, H.Z., Yeksan, M. et al. (2010) The effects of gabapentin therapy on pruritus, quality of life, depression and sleep quality in pruritic hemodialysis patients. *Trakya Universitesi Tip Fakultesi Dergisi*, 27, 1–5.

Tsai, Y.-C., Chiu, Y.-W., Hung, C.-C., Hwang, S.-J., Tsai, J.-C., Wang, S.-L. et al. (2012) Association of symptoms of depression with progression of CKD. *American Journal of Kidney Diseases*, 60, 54–61.

Valsaraj, B.P., Bhat, S.M. & Latha, K.S. (2016) Cognitive behaviour therapy for anxiety and depression among people undergoing haemodialysis: a randomized control trial. *Journal of Clinical and Diagnostic Research*, 10, VC06–VC10.

van Oosten, M.J.M., Koning, D., Logtenberg, S.J.J., Leegte, M.J.H., Bilo, H.J.G., Hemmelder, M.H. et al. (2021) Chronic prescription of antidepressant medication in patients with chronic kidney disease with and without kidney replacement therapy compared with matched controls in the Dutch general population. *Clinical Kidney Journal*, 15, 778–785.

Watnick, S., Wang, P.L., Demadura, T. & Ganzini, L. (2005) Validation of 2 depression screening tools in dialysis patients. *American Journal of Kidney Diseases*, 46, 919–924.

Weiner, S., Kutner, N.G., Bowles, T. & Johnstone, S. (2010) Improving psychosocial health in hemodialysis patients after a disaster. *Social Work in Health Care*, 49, 513–525.

Yang, L., Wang, H., Cao, J., Qian, Y., Gu, Y. & Chu, C. (2021) Effects of six sigma methodology on depression and anxiety of patients with end-stage renal disease. *Annals of palliative medicine*, 10, 4375–4383.

Zelle, D.M., Dorland, H.F., Rosmalen, J.G.M., Corpeleijn, E., Gans, R.O.B., Homan Van Der Heide, J.J. et al. (2012) Impact of depression on long-term outcome after renal transplantation: a prospective cohort study. *Transplantation*, 94, 1033–1040.

Zhao, C., Ma, H., Yang, L., Xiao, Y., Aamot, A., Akerstrom, B. et al. (2017) Long-term bicycle riding ameliorates the depression of the patients undergoing hemodialysis by affecting the levels of interleukin-6 and interleukin-18. *Neuropsychiatric Disease and Treatment*, 13, 91–100.

Zheng, X.Y., Han, S., Wang, L.M., Zhu, Y.H., Zeng, L. & Zhou, M.S. (2014) Quality of life and psychology after living-related kidney transplantation from donors and recipients in China. *Transplantation Proceedings*, 46, 3426–3430.

Zhianfar, L., Nadrian, H., Asghari Jafarabadi, M., Espahbodi, F. & Shaghaghi, A. (2020) Effectiveness of a multifaceted educational intervention to enhance therapeutic regimen adherence and quality of life amongst Iranian hemodialysis patients: a randomized controlled trial (MEITRA study). *Journal of Multidisciplinary Healthcare*, 13, 361–372.

Zimmermann, T., Pabst, S., Bertram, A., Schiffer, M. A. & de Zwaan, M. (2016) Differences in emotional responses in living and deceased donor kidney transplant patients. *Clinical Kidney Journal*, 9, 503–509.

AUTHOR BIOGRAPHY

Dr Joseph Chilcot is a Reader in Health Psychology and Head of the Health Psychology Section, at the Institute of Psychiatry, Psychology & Neuroscience, King's College London. His research is focused on the psychological aspects associated with long-term conditions (LTCs), particularly advanced kidney disease. Joe is interested in the role cognitive and behavioural factors have upon symptoms and their trajectories (including distress and fatigue) and how these relate to clinical outcomes. He is also interested in the detection, management and treatment of depression among individuals living with kidney disease and other LTCs.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Pearce, C.J., Hall, N., Hudson, J.L., Farrington, K., Tucker, M.J.R., Wellsted, D., et al. (2023) Approaches to the identification and management of depression in people living with chronic kidney disease: a scoping review of 860 papers. *Journal of Renal Care*, 1–11. https://doi.org/10.1111/jorc.12458