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Title	General practitioners' knowledge, attitudes, and experiences of managing behavioural and psychological symptoms of dementia: A mixed-methods systematic review
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Publication date	2018-06-13
Original Citation	Jennings, A.A., Foley, T., Walsh, K.A., Coffey, A., Browne, J.P. and Bradley, C.P. (2018) 'General practitioners' knowledge, attitudes, and experiences of managing behavioural and psychological symptoms of dementia: A mixed#methods systematic review'. International Journal of Geriatric Psychiatry, 33(9), pp.1163-1176. doi:10.1002/gps.4918
Type of publication	Article (peer-reviewed)
Link to publisher's version	https://onlinelibrary.wiley.com/doi/full/10.1002/gps.4918 - 10.1002/gps.4918
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Download date	2024-04-19 05:30:31
Item downloaded from	https://hdl.handle.net/10468/9204

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University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Received: 18 December 2017 | Accepted: 3 April 2018
DOI: 10.1002/gps.4918

REVIEW ARTICLE

WILEY International Journal of Geriatric Psychiatry

General practitioners' knowledge, attitudes, and experiences of managing behavioural and psychological symptoms of dementia: A mixed-methods systematic review

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Funding information
Health Service Executive, Ireland; Irish College of General Practitioners; Atlantic Philanthropies

Objectives: To synthesise the existing published literature on general practitioners (GP)'s knowledge, attitudes, and experiences of managing behavioural and psychological symptoms of dementia (BPSD) with a view to informing future interventions.

Methods: We conducted a systematic review and synthesis of quantitative and qualitative studies that explored GPs' experiences of managing BPSD (PROSPERO protocol registration CRD42017054916). Seven electronic databases were searched from inception to October 2017. Each stage of the review process involved at least 2 authors working independently. The meta-ethnographic approach was used to synthesise the findings of the included studies while preserving the context of the primary data. The Confidence in the Evidence from Reviews of Qualitative research (CERQual) was used to assess the confidence in our individual review findings.

Results: Of the 1638 articles identified, 76 full texts were reviewed and 11 were included. Three main concepts specific to GPs' experiences of managing BPSD emerged: unmet primary care resource needs, justification of antipsychotic prescribing, and the pivotal role of families. A "line of argument" was drawn, which described how in the context of resource limitations a therapeutic void was created. This resulted in GPs being over reliant on antipsychotics and family caregivers. These factors appeared to culminate in a reactive response to BPSD whereby behaviours and symptoms could escalate until a crisis point was reached.

Conclusion: This systematic review offers new insights into GPs' perspectives on the management of BPSD and will help to inform the design and development of interventions to support GPs managing BPSD.

KEYWORDS

behavioural and psychological symptoms (BPSD), dementia, general practitioners (GPs), meta-ethnography, mixed methods, neuropsychiatric symptoms (NPS), qualitative research, systematic review

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1 | INTRODUCTION

General practitioners (GPs) play a pivotal role in the care of people with dementia and their families.[1-3] National strategies developed to address the increased prevalence of dementia[4] have emphasised the role of GPs in successful implementation[5-7] but dementia care in the community can be challenging.[8,9] In common with their hospital-based colleagues,[10] General practitioners find the management of the behavioural and psychological symptoms of dementia (BPSD) particularly difficult.[11-14]

Behavioural and psychological symptoms of dementia encompass behaviours such as aggression, wandering, sexual disinhibition, agitation, and symptoms such as anxiety, depression, and delusions. Most people with dementia will experience BPSD at some time during their illness.[15] Behavioural and psychological symptoms of dementia are associated with increased rates of admission to nursing homes,[16] longer in-patient hospital stays,[17] and are a major contributor to caregiver stress and depression.[18] The assessment of BPSD is complex,[19] and effective treatment options are limited. Non-pharmacological interventions are recommended as the first line of treatment in most cases.[20] Personalised non-pharmacological interventions such as personalised music therapy[21,22] and formal caregiver training to enhance communication skills[22] may have a role in the management of BPSD; however, uptake of non-pharmacological strategies is low.[23] Psychotropic medications such as antipsychotics, anxiolytics, hypnotics, and antidepressants are frequently used to manage BPSD.[24,25] Antipsychotics are the most commonly prescribed psychotropic in BPSD[24]; however, the benefits of antipsychotics in BPSD are modest at best.[26] Furthermore, in BPSD, any benefits are usually offset by the significant adverse effects of antipsychotics in dementia, including increased risk of cerebrovascular events and increased mortality.[26-29] However, based on current available evidence, pharmacological alternatives to antipsychotics in BPSD are largely ineffective.[30-34] Although there may be a role for citalopram in managing milder agitation,[35] it too can result in significant side-effects including QT prolongation and worsening of cognitive impairment.[36]

There is a need for interventions designed to support GPs in their management of BPSD. An important first step in intervention design is to establish a thorough understanding of the existing problem.[37,38] The aim of this systematic review was to gain a deeper understanding of GPs' knowledge, attitudes, and experiences of managing BPSD. It will also inform the development of an intervention to assist GPs with the management of BPSD.

Key points

- This is first review to systematically review and synthesise the existing literature on GPs' knowledge, attitudes, and experiences of managing BPSD.
- A number of issues were identified including the knowledge and resource needs of GPs, their reliance on antipsychotic medications, and the influential role of family.
- While offering new insights into GPs' perspectives on the management of BPSD, this review highlights the limited research conducted in this area to date.
- This review will help to inform the design and development of interventions to support GPs managing BPSD.

2 | METHODS

We performed a systematic review of studies that used qualitative or quantitative methods to explore GPs' experiences of managing BPSD.[39] A mixed-methods approach was used to ensure that all relevant literature was included.[40] To synthesise the qualitative and quantitative results, an integrated design was adopted.[41] This involved transforming quantitative data obtained from GPs' responses to standardised questionnaires into qualitative form so that it could be combined with data from qualitative studies and subjected to qualitative analysis. Once the data were in qualitative form, the synthesis was guided by the meta-ethnographic approach as described by Noblit and Hare.[42] Meta-ethnography goes beyond merely describing or summarising the literature: the aim is to use the source material to develop original interpretations by accounting for both the context of the research and the reported findings.

The review was registered with the International Prospective Register of Systematic Reviews (PROSPERO) (registration number 42017054916). Table 1 outlines the eligibility and exclusion criteria. We included all studies that explored the knowledge, attitude, or experiences of GPs in the management of BPSD in the community and in nursing home settings. Studies that did not describe in detail the knowledge and attitudes of practising GPs in relation to BPSD were excluded. Studies that focused on GPs who sub-specialised in elderly care medicine and now work exclusively as specialist elderly care physicians in nursing home settings[43] were excluded from this review. It was considered that as a result of their specialist training, the knowledge and attitudes of these specialist elderly care physicians towards BPSD would not be representative of GPs generally.

Seven electronic bibliographic databases were searched from inception to present: MEDLINE (Ovid), Embase (Elsevier), CINAHL, PsychINFO, Academic Search Complete, SocIndex, and Social Science Full Text. The initial search was conducted in June 2017 and repeated on 25 October 2017. The search strategy was developed by using database-specific search terms with input from a health services librarian. The MEDLINE search strategy is displayed in Table 2. Other search methods used included hand-searching key journals and conference proceedings, citation searching of highly cited key papers, and scanning reference lists of key papers.

For the first stage of abstract screening, duplicates and clearly irrelevant studies (for example pre-clinical studies) were removed by one reviewer (A.J.). In the next stage, 2 independent reviewers from the screening team (A.J., T.F., A.C., and C.B.) independently screened each study abstract. All eligible studies were then assessed by 2 independent reviewers. Any conflicts regarding the eligibility of a study were resolved through discussion between the paired teams. Where necessary, a third reviewer adjudicated and made the final decision

TABLE 1 Eligibility criteria for studies in the systematic review

Inclusion Criteria	Exclusion Criteria
- Studies that explore the knowledge, attitude or experiences of GPs in the management of BPSD in nursing homes and/or in the community - Qualitative or quantitative study design - Studies must include GPs	- Studies that do not describe in detail the knowledge and attitudes of general practitioners in relation to BPSD - Non-English language studies - Studies reporting the perspective of non-GP health care professionals where the views of GPs are not represented or analysed separately - Studies reporting on GPs' perspectives on managing another aspect of dementia without any reference to the management of BPSD - Opinion pieces and non-peer reviewed articles

Abbreviations: BPSD, behavioural and psychological symptoms of dementia; GPs, general practitioners.

TABLE 2 The MEDLINE, Ovid search strategy

	Primary Care Physicians	Dementia	BPSD
MeSH terms /subheadings	Exp Primary Health Care/ Exp General Practice Family Practice/ Exp General Practitioners/ Exp Physicians, Family/ Exp Physicians, Primary Care/	Exp Dementia/ Exp Alzheimer Disease/	Exp Antipsychotic Agents/ Exp Anxiety/ Exp Aggression/ Exp Wandering behavior/ Exp Sleep Disorders/ Exp Apathy/ Exp Irritable Mood/ Exp Psychotic Disorders/ Exp Depression/
Text words	family medicine. ti, ab	dementia. ti,ab. alzheimer*.ti, ab. (cognitive adj (impairment or decline)).ti, ab	Behavio?ral and psychological symptom*ti, ab BPSD.ti, ab Challenging behavio? r*ti, ab Responsive behavio? r*.ti, ab Neuropsychiatric symptom*.ti, ab Non-cognitive symptom*.ti, ab Noncognitive symptom*.ti, ab Psychological symptom*.ti, ab Psychiatric symptom*.ti, ab Difficult behav*.ti, ab Disruptive behav*.ti, ab Behavio?ral symptom*.ti, ab (agitated or agitation).ti, ab (depressed or depression).ti, ab (anxiety or anxious).ti, ab (aggressive* behav*).ti, ab

regarding inclusion. All studies that were excluded after full-text screening are listed, with their reason for exclusion, in File S1.

Data concerning participant characteristics, aims, setting, and methods were extracted independently by 2 reviewers (A.J. and T.F.). Members of the review team independently read and re-read all the eligible studies in chronological order focusing initially on the content and context. The lead author (A.J.) open coded all the included studies focusing specifically on the first-order interpretations (views of participants) and second-order interpretations (views of the authors). In the qualitative studies, the first-order interpretations focused on the attitudes and experiences of GPs as presented in the result sections of the studies. In the quantitative studies, the first-order interpretations were identified from participants' responses to questionnaire items and a text file was created describing these responses. Second-order interpretations were derived from the discussions and conclusions. At this point, the data collected from quantitative and qualitative studies were no longer distinguishable, enabling the synthesis of all the data in qualitative form. The software package NVivo 11 was used to facilitate data analysis and synthesis.

To ensure credibility and dependability of coding, a second reviewer (K.W.) also coded 3 studies.[44-46] Conceptual groupings were created for each study and illustrated with conceptual mind maps. The 2 reviewers involved (A.J. and K.W.) met regularly to discuss differences in interpretation of the studies. All 4 members of the analysis team (A.J., K.W., C.B., and T.F.) met to discuss the key concepts emerging from the analysis of the included studies. To determine how the studies related to each other, a table was iteratively developed that displayed the identified concepts and themes across all studies (File S2). To examine the contribution of each study to a key concept, the review team compared the themes and concepts from each individual study in chronological order. Attention was paid to deviant cases and to the influence of context on the study findings. The third-order interpretations were iteratively developed by the analysis team. Finally, the analysis team collectively linked the third-order interpretations into a "line of argument,"[42] which represents the overarching perspective of GPs towards BPSD.

All included papers were independently assessed by 2 reviewers (A.J. and J.B.) for methodological validity. A. J. was a co-author on one of the included studies[12]; therefore, the quality assessment of that study was carried out by C.B. and J.B. The Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research was used to assess the quality of the included qualitative studies.[47] Since there is no agreed quality assessment tool for assessing the quality of descriptive cross-sectional studies, a new original tool was developed by 2 of the reviewers (A.J. and J.B.). This tool was based on other original tools developed for a similar purpose[48,49] and also considered recommendations on how

survey questionnaires should be designed.[50] This tool is available in File S3. Judgements on the quality of the study were not used to exclude studies that otherwise meet the inclusion criteria.

We report our results to conform with the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) statement[51] (File S4). We express our search strategy results by using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram[52] (Figure 1). Two independent reviewers (A.J. and K.W.) applied the Confidence in the Evidence from Reviews of Qualitative Research (CERQual) tool to the review findings. The CERQual approach provides a transparent method of assessing the confidence of findings of systematic reviews of qualitative research.[53]

3 | RESULTS

3.1 | Search results

The search returned 2361 citations. About 1638 citations remained to be screened after duplicates were removed. About 1558 citations were removed from abstract screening (File S5) leaving 75 full texts to be assessed for eligibility. Following full-text review, 10 eligible studies were included (see Figure 1 and File S1). The final repeat search resulted in the inclusion of 1 additional full text. Therefore, we included 11 studies, which described 9 study cohorts.

3.2 | Characteristics of included studies

Of the 11 included studies, 4 were qualitative, 6 were quantitative, and 1 was mixed methods. The characteristics of the included studies are shown in Table 3. In total, the views of 526 GPs from 5 different countries were represented.

3.3 | Quality appraisal

We judged the overall quality of the qualitative studies in the review to be high (File S6 and Table 1). The most common weakness was poor reflexivity: only one study[46] was found to have fully addressed this issue. Three of the descriptive cross-sectional studies were rated as low quality (achieving only 3 out of 7 quality markers). These studies all reported on the same cohort.[54-56] The overall quality of the other

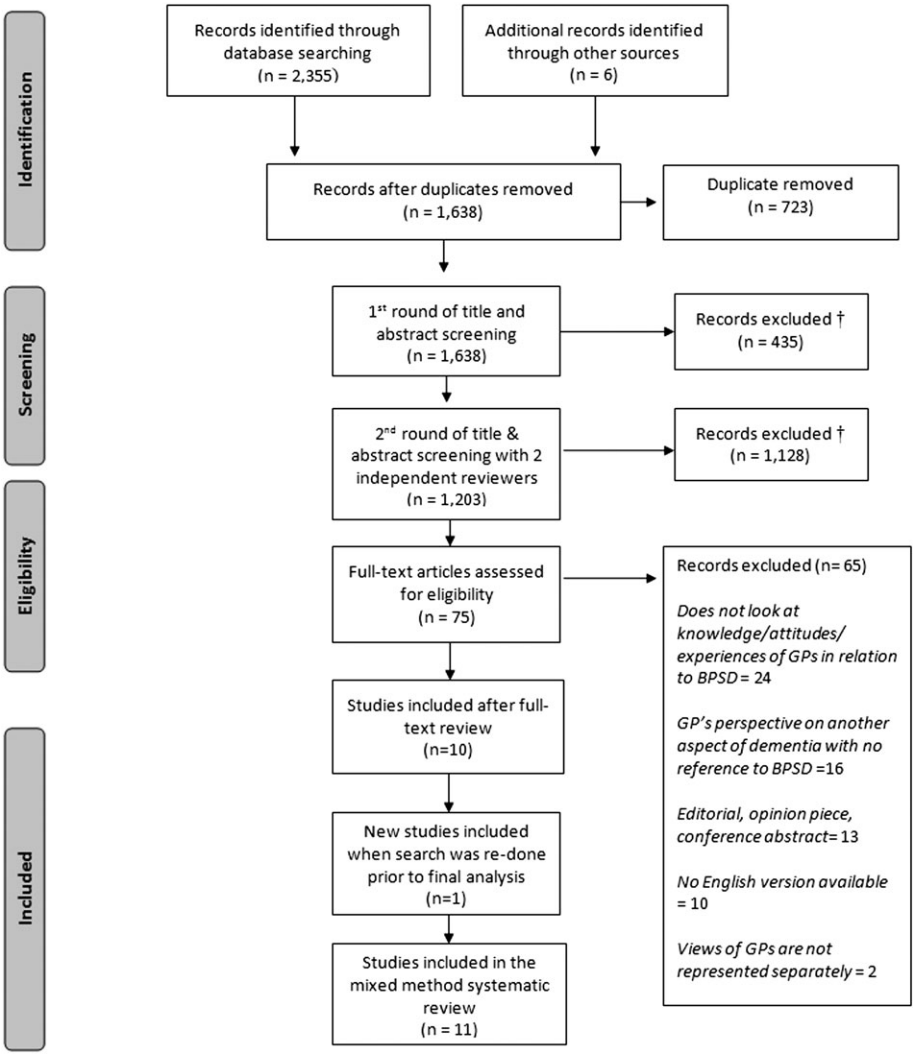

FIGURE 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. †Reasons for the exclusion of records at the abstract screening stages are available in Supplementary File 5 (found in the Supporting Information)

TABLE 3 Characteristics of included studies

First Author, Year of Publication	Country	Author's Discipline	Study Objectives	Main Findings	Design/Analysis	GP Participant	Setting
Colenda, 1995[56]	United States	Psychiatry of old age	To measure the anticipated regret physicians experience when making treatment decisions for patients with dementia who are agitated.	When managing agitation in people with dementia, the decision to "act" or intervene generated less anticipated regret than the decision not to "act."	Quantitative. Postal survey. Eight written vignettes describing treatment decisions and outcome for patients with dementia who were agitated. The degree of regret the respondent anticipated they would experience was measured using a 5-point Likert scale.	N = 77	GPs who cared for people with dementia in a community setting
Colenda, 1996[54]	United States	Psychiatry of old age	To understand physician clinical reasoning and clinical practices for community-dwelling patients with dementia who are agitated.	Personal and speciality characteristics influence the types of treatment recommendations made for people with dementia who are agitated.	Quantitative. Postal survey. Used a case vignette to elicit how likely the physician was to carry out 1 of 13 different pharmacological and non-pharmacological interventions.	N = 79	GPs who cared for people with dementia in a community setting
Colenda, 1996[55]	United States	Psychiatry of old age	To understand the variables that influence treatment decisions of physicians who treat patients with dementia who are agitated.	Physicians regardless of speciality recommended neuroleptic medication as their primary intervention. PCPs were more likely than other specialities to indicate that the "hassle factor" influenced their decision making.	Quantitative. Postal survey. Respondents were presented with a clinical vignette and then asked to estimate, using a 7-point Likert scale, the extent to which individual patient characteristics, current clinical situation and treatment variables would influence their primary treatment recommendation.	N = 59	GPs who cared for people with dementia in a community setting
Teel, 2004[60]	United States	Nursing	To describe the experiences of primary care providers in rural settings in diagnosing and treating patients with dementia.	Limited access to consultants, limited community support and insufficient educational resources impeded the care of people with dementia in rural settings. The influence of family was significant.	Qualitative Individual semi-structured interviews with Analysis: Descriptive	N = 17	Community-based rural family practice
Hinton, 2007[44]	United States	Psychiatry of old age	To examine how practice constraints contribute to barriers in the care of people with dementia and their families, particularly with respect to behavioural aspects of care.	Insufficient time, difficulty accessing specialists, poor reimbursement and lack of interdisciplinary teams increased reliance on pharmacological management options in BPSD.	Qualitative Individual semi-structured interviews. Analysis: Thematic, used analyst triangulation	*N* = 40	Community-based urban family practice
Buhagiar, 2011[45]	Ireland	Psychiatry	To assess self-reported confidence and knowledge of general practitioners regarding the identification and management of behavioural and psychological symptoms of dementia.	GPs are knowledgeable on BPSD but are critical of their own skills. GP's confidence in managing BPSD is the issue rather than their knowledge.	Quantitative. Postal survey (2 pg questionnaire)	N = 106	Community-based GPs

(Continues)

TABLE 3 (Continued)

First Author, Year of Publication	Country	Author's Discipline	Study Objectives	Main Findings	Design/Analysis	GP Participant	Setting
Mavrodaris, 2013[58]	United Kingdom	Public health	To investigate antipsychotic prescribing practices and patient review at primary care level (including care homes).	GPs are reluctant to discontinue antipsychotics due to uncertainty of professional roles and expectation of resistance from care home staff.	Mixed method Survey with some open ended questions. Open ended questions thematically analysed.	N = 60	Community-based GP participants Unclear whether these GPs had an NH commitment or not
Azermai, 2014[57]	Belgium	Pharmacology	To explore the willingness of nurses and general practitioners to discontinue antipsychotics and to identify barriers to antipsychotic discontinuation.	GPs identified a number of barriers to discontinuing antipsychotics; concern that it would negatively impact on the patient's quality of life, concern that it would lead to a re-emergence of BPSD and insufficient non-pharmacological alternatives.	Quantitative 2 multidisciplinary expert meetings using nominal group technique informed the development of a questionnaire. Questionnaires were distributed to GPs and nurses who cared for patients in a nursing home setting. Questionnaires were designed to generate case-specific information. Statistically analysed.	28 GP respondents provided 51 case specific questionnaire responses.	Focus was on GPs with a nursing home commitment. Unclear if also had community commitment. Respondents were GPs who cared for people with dementia who were being prescribed antipsychotics for more than 1 month in a nursing home setting. Nursing homes (n = 4); 3 private, 1 public
Donyai, 2017[46]	United Kingdom	Pharmacy	To explore the use of fallacious arguments in professionals' deliberations about antipsychotic prescribing in dementia in care home settings.	Concept presented by participants was that there was no real alternative to prescribing antipsychotics, therefore, their use was justified in the context of need.	Qualitative Semi-structured face-to-face interviews Content analysis	N = 5	Participating GPs cared for people with dementia in a nursing home setting.
Foley, 2017[12]	Ireland	General practice	To explore GPs' dementia care educational needs.	GPs consider BPSD to be a significant educational need in the context of dementia care.	Qualitative Semi-structured face to face interviews Thematic analysis	N = 14	All participating GPs cared for people with dementia in a community setting. Some also cared for people with dementia in a nursing home.
Cousins, 2017[59]	Australia	Pharmacy	To identify factors influencing the prescribing of psychotropic medication by GPs to nursing home residents with dementia.	A lack of nursing staff and resources was cited as the major barrier to GPs recommending non-pharmacological techniques for BPSD.	Quantitative Online and postal survey 26 questions	N = 177	Community-based GPs that provide care to patients with dementia in a nursing home setting.

Abbreviations: BPSD, behavioural and psychological symptoms of dementia; GPs, general practitioners; PCPs, primary care physicians.

4 descriptive cross-sectional studies ranged from moderate to high (File S6 and Table 2). Common areas of weakness were the lack of involvement of the target population in the instrument development[45,54-56] and the lack of clarity on whether the sample used in the study was likely to be representative of the study population.[45,54-56] None of the descriptive cross-sectional studies provided a sample size justification, statistical power description, or variance and effect estimates.

3.4 | Translation of included studies

The analysis led to the identification of 3 key concepts, which encompassed 8 sub-themes reflecting GPs' experiences of managing BPSD. Each sub-theme was supported by data from both qualitative and quantitative studies. The findings supporting first-order interpretations are indicated by italicised quotations and those supporting second-order interpretations by non-italicised quotations.

4 | UNMET PRIMARY CARE NEEDS

GPs' knowledge and self-efficacy

Nearly all the included studies examined issues pertaining to GPs' knowledge and self-efficacy.[12,44-46,55,57-59] In some studies, BPSD was considered by GPs to be "*very difficult to deal with*"[12] and "distressing."[60] General practitioners tended to be "critical of their perceived skills in the diagnosis and management of BPSD."[45] Specifically, in some studies, GPs were critical of their knowledge of prescribing psychotropic medications[12,44]: "*When do you add in psychotropic medication, what type of medication, what dosages, for how long?*"[12] General practitioners' perceived lack of knowledge impacted upon their confidence prescribing these medications: "*I do rely on psychiatry because I admit that I am not the most knowledgeable person about people with agitation and behavioral problems at home. I get a little nervous about antipsychotic meds and I tend to send those people to psychiatry.*"[44] General practitioners also lacked confidence when differentiating BPSD from other potential causes of these behaviours and symptoms[44,45]: "*I want a second opinion too in making sure my diagnosis is correct.*"[44] In addition to GPs' lack of knowledge of and confidence in pharmacological management in BPSD, GPs were also found to lack knowledge on non-pharmacological interventions[46,55] and, at times, the confidence to recommend them.[45] However, in some of the studies, participating GPs demonstrated a good knowledge of both non-pharmacological and pharmacological management options in BPSD.[45,58,59] For example, in one study, most GPs reported proactively reducing psychotropic medications and routinely recommending non-pharmacological interventions prior to commencing medications[59]; however, these GPs still felt they required "more training"[59] in BPSD.

Lack of defined pathways of care

Several studies identified the need for clearly defined pathways of care that would allow GPs to access advice from relevant experts in the area.[12,44,45,58,60] The difficulty caused by long waiting lists was highlighted[44,45,60]: "*there's a weekly outreach clinic, but it can take several months to get in.*"[60] Additionally, GPs identified difficulty accessing other relevant health care professionals: "*dementia care it's a team care, dietician, social work, psychiatry, psychologist, and pharmacist…I feel I don't have this.*"[44] General practitioners found identifying the relevant members of the primary care team to be a "*struggle.*"[12] In some studies, there was "confusion regarding [the GP's] role"[58] in BPSD. In many studies, the GP emerged as an isolated figure when managing BPSD,[44,45,58,60] expressing "frustration [at] being placed in a situation in which they felt compelled to provide care that they felt was beyond their realm of expertise."[44] The need for "improved communication and collaboration"[58] between the different health care professionals was highlighted to avoid GPs feeling that they are "left to deal with the crisis on their own without back-up."[45]

Time-intensive

The time required to assess and manage BPSD emerged as an issue in several studies[44,54,60]: "*… it's a lot more complicated than the intact 50-year-old hypertensive diabetic.*,"[44] Addressing the needs of family caregivers also required time[44,54,60]: "*I spend as much time asking how the caregiver's doing as I do the patient.*"[60] General practitioners sometimes described feeling overwhelmed with the workload that a person with dementia can generate: "*I think we're all drowning … we are all truly trying to keep our heads above water…These people do take a lot of time and energy.*"[44] As a result of the time-intensive nature of managing BPSD and in the context of inadequate "*reimbursement*,"[44] some GPs considered managing people with dementia to be burdensome: "*they cause chaos, and so they get referred or something happens.*"[44] The symptoms and behaviours were "neglected"[44] until an "emergency situation"[54] or "time of crisis."[44]

5 | JUSTIFICATION OF ANTIPSYCHOTIC PRESCRIBING

Antipsychotics to facilitate coping

In 4 studies,[46,57-59] the prescribing of antipsychotics was seen to enable carers, nursing home staff, and the person with dementia to cope with BPSD: "*he was weeping for his wife who has been dead for many years … on quetiapine … the uncontrollable weeping had stopped.*"[46] Although in some studies GPs were aware of the risks of antipsychotic prescribing in people with dementia, these risks were seen to relate to longevity of life whereas in BPSD "quality of life issues prevailed."[58] In several studies, GPs' believed antipsychotics positively impacted on the quality of life of people with BPSD.[46,57,59] This contributed to their reluctance to discontinue antipsychotics.[46,57,59] Additionally, in 2 studies, GPs expressed a concern that discontinuing the antipsychotic would lead to a "return of challenging behaviours."[57,59]

Barriers to implementation of non-pharmacological strategies

Several studies considered the challenges inherent to implementing non-pharmacological strategies in BPSD.[45,54,57,58] A key finding in 3 of the studies that were conducted in nursing home settings related to the influence of nursing home staff on the implementation of

non-pharmacological strategies.[57-59] Pressure from staff to prescribe medication[58,59] influenced the GPs' management decisions and acted as a barrier to recommending non-pharmacological strategies: "*often it is pressure from nursing homes … for medication to calm a patient down that is trigger for prescribing.*"[58] One study found that in a nursing home setting "nursing staff have the largest influence on prescribing psychotropic medication."[59] However, this study also found that experienced GPs (in practice >20 years) were significantly less likely than more recently qualified GPs "to rate pressure to prescribe from aged care facility staff as a barrier"[59] to recommending non-pharmacological strategies.

In a nursing home context, although a GP can recommend non-pharmacological strategies, their implementation typically falls to nursing home staff not to the GP. Two of the studies reported that chronic understaffing of nursing homes[57,59] acted as a barrier to the GP recommending non-pharmacological strategies. An additional factor that hindered the implementation of non-pharmacological strategies in nursing home settings was the lack of shared perspectives[57-59] between GPs and nursing home staff. For example, one study identified a "culture of blaming," reporting that GP felt under pressure from nursing home staff to prescribe, while nursing home staff reported that it was the GPs that insisted on pharmacological treatment.[58] A final barrier to the implementation of non-pharmacological strategies was that in the context of "healthcare budgets and resource constraints,"[58] guidelines on non-pharmacological management strategies were perceived to be impractical.[45,58]

Traditional prescribing role

In some studies,[45,46,54,55] it was suggested that GPs were more comfortable with their role as prescribers of medications and less comfortable "with the more alien non-pharmacological methods."[45] In several earlier studies, GPs reported a preference for "medication as the primary intervention"[54] and were found to be "wedded to a traditional medical model of care."[55] In more recent studies,[45,46] the value of non-pharmacological management strategies was increasingly recognised. However, some participating GPs were still reluctant to reduce their prescribing.[46] Although accepting the important role of non-pharmacological management, "this belief was not put into clinical practice".[45] A GP in one study felt that antipsychotics were sometimes the "*easy option, because it's something as doctors we do, we just prescribe medications.*"[46]

6 | PIVOTAL ROLE OF FAMILIES

Influence of family

The critical role played by family members in the management of BPSD was highlighted by several studies that explored GPs' experiences of managing BPSD in the community setting.[12,44,54,60] General practitioners' management of the person with BPSD was influenced by the family[45,54,60] who "contributed to making treatment processes either more difficult or more straightforward."[60] The impact of pressure from families was discussed in 3 studies.[45,54,60] These studies described "repeated phone calls" from family members[54] or a mismatch of expectations of the family and the capabilities of the GP: "*resistant children … who promised they'd never put mom in a nursing home, but they don't want to take her … so we try to hire someone, which is virtually impossible.*"[60] There was some evidence of GPs deflecting responsibility for the management of BPSD back to the family: "*usually, the family deals with it* [BPSD]."[44] However, the important role a GP plays in supporting carers was emphasised by GPs in several studies[12,44,60]: "*one of the big learnings I've had is … how important carer support is.*"[12] Studies that focused on the management of BPSD in nursing home settings found family members were less influential on prescribing.[59]

Community-based supports for family caregivers

General practitioners highlighted the importance of access to community supports for family caregivers[12,44,60]: "*I think you live on this lifeline of getting this respite and that helps you to cope as a carer.*"[12] However, accessing these supports was challenging for GPs. Supports sometimes were not there: "*we don't have much in the way of support groups … we are in a no man's land,*"[60]or the GP did not know how to access the supports: "*I myself wouldn't be able to provide the specifics of it,*"[12] or the GP felt that providing information on these supports was beyond their professional remit and capabilities: "*since I'm not a licensed clinical social worker and I don't know what's available in the community …*"[44]

6.2 | Impact of context on findings

Some studies focused on a subset of a GP's professional responsibility for people with dementia. Three of the studies focused on GPs who cared for people with dementia in a nursing home setting and excluded those managing dementia in the community.[46,57,59] Four of the studies in the review focused on a singular aspect of the management of BPSD, antipsychotic prescribing,[46,57-59] and were conducted by pharmacists or pharmacologists.[46,57,59] The authors of the remaining 8 studies were from other disciplines including psychiatry, nursing, and general practice. They adopted a more holistic approach to discussing the assessment and management of BPSD. Of note, only one study was authored by a GP.[12] Five of the 11 studies included in this review were from the United States[44,54-56,60] from which the subtheme on "time" emerged. This may be influenced by factors specific to the health care system in the United States.

The studies spanned 22 years (1995 to 2017). Over this time, there have been substantial changes to recommendations regarding the management of BPSD. Earlier studies described how antipsychotics "may be the best available option for physicians."[54] However, as the evidence for the harmful effects of using antipsychotic medications in people with dementia emerged,[26,29] there has been a distinct shift. The use of antipsychotics became less acceptable: "antipsychotics should not be prescribed to reduce stress in carers …"[46] The studies in this review highlight the journey the management of BPSD has travelled over the past 2 decades—from "what is the right psychotropic to use?" to "should we be using psychotropic medication?" to "stop using psychotropic medication." A parallel journey occurred for non-pharmacological management strategies, which received increased emphasis.

6.3 | Synthesis

Six third-order interpretations were iteratively developed by synthesising the first-order and second-order interpretations. The third-order interpretations and their associated CERQual confidence levels are shown in Table 4 and further expanded in File S7. These third-order interpretations were synthesised into a "line of argument," which is detailed in Table 5 and is represented graphically in File S8.

7 | DISCUSSION

This is the first review to systematically review and synthesise the literature on GPs' knowledge, attitudes, and experiences of managing BPSD. A wide range of issues were identified including the knowledge and resource needs of GPs, the reliance on antipsychotic medications, and the influential role of the family. These are areas that could be targeted to improve the management of this challenging aspect of dementia care.

7.1 | Comparison with previous research

In this review, GPs were found to have a low sense of self-efficacy when managing BPSD. A systematic review on the barriers to diagnosing and managing dementia in general practice identified that GPs' limited knowledge about dementia can act as a barrier to the provision of optimum care to people with dementia.[8] A previous quantitative study of GPs' knowledge of and attitude towards dementia found that the vast majority of respondents lacked confidence in the management of BPSD, prompting the authors to recommend that future educational support should focus on BPSD.[11] While educational interventions are a reasonable and important focus,[61] it is likely that GPs' low sense of self-efficacy stems from more than a lack of knowledge of BPSD. General practitioners can find managing dementia stressful.[62] The resource-intensive nature of managing BPSD coupled with the lack of clearly defined pathways of care will impact on a GPs sense of self-efficacy when managing such a complex clinical condition. Previous systematic reviews have identified that to effectively change GPs' behaviour in dementia care education alone is not sufficient; education needs to be combined with service innovation ideally in the form of organisational incentives.[63,64] Although an increase in knowledge would go some way towards improving GPs' self-efficacy, GPs also need to be supported by clear pathways of care and appropriate resourcing.

Antipsychotics were considered to be justifiable in the context of need. They were perceived to improve the quality of life of people with BPSD and enabled everyone, including the GP, to cope with the constraints imposed by insufficient resources. A recent systematic review examined the influences on decision-making on antipsychotic prescribing in nursing home residents and found that that to circumvent the problems of inadequate resourcing antipsychotics were "used" as cheap, fast, and effective staff members.[65] In this current review, the benefits of antipsychotics were often over-estimated and their potential harmful side-effects were sometimes overlooked because these side effects were perceived to relate to longevity of life

TABLE 4 Summary of CERQual assessment

Review Findings/Third-Order Interpretation	Relevant Papers	CERQual Assessment of Confidence in the Evidence	Explanation of CERQual Assessment
Unmet primary care needs			
1. Managing BPSD was complex, resource intensive and sometimes unrewarding for the GP.	44,60	Low confidence	Substantial concerns regarding adequacy and minor concerns regarding methodological limitations and relevance.
2. GPs lacked confidence when managing BPSD and wanted input from either secondary care or relevant members of the primary care team. However, the lack of clearly defined care pathways meant that GPs experienced difficulty accessing advice.	12,44,45,58,60	High confidence	Minor concerns regarding methodological limitations and adequacy.
Justification of antipsychotic prescribing			
1. GPs were more comfortable prescribing medication than advising on non-pharmacological management strategies.	45,46,54,55,58	Moderate confidence	Moderate concerns regarding the adequacy of the data and methodological limitations. Minor concerns about the relevance of the studies.
2. GPs found that antipsychotics enabled the person with dementia, the family caregiver, the nursing home staff, and the GPs themselves to cope with BPSD.	46,57-59	High confidence	Minor concerns regarding methodological limitations, relevance and adequacy.
3. GPs had a tendency to over-estimate the benefits of antipsychotic prescribing. Consequently, in the context of the challenges of implementing non-pharmacological alternatives, the risks associated with antipsychotics were tolerated.	57,59	Low confidence	Substantial concerns regarding adequacy and minor concerns regarding methodological limitations, relevance, and coherence.
Pivotal role of family			
1. The family of the person with dementia plays a crucial role in the management of BPSD. However, the needs of the carer could be intensive and challenging for the GP, particularly in the context of limited community supports for family caregivers.	12,44,60	Moderate confidence	Minor concerns about methodological limitations and relevance. Moderate concerns regarding data adequacy

Abbreviations: BPSD, behavioural and psychological symptoms of dementia; GPs, general practitioners.

TABLE 5 Line of argument synthesis

Line of argument synthesis:	GPs experience difficulties accessing supports for family caregivers and for themselves when managing BPSD. Under-resourcing, poorly defined roles, and a lack of integrated care pathways may contribute to GPs' feelings of isolation and low self-efficacy when managing BPSD. Low self-efficacy is further exacerbated by the lack of practical, implementable non-pharmacological treatment strategies, which can lead to an over-reliance on both family caregivers and psychotropic medications to fill the therapeutic void created. It appears that these conditions can culminate in a reactive response to the care of people with BPSD where behaviours and symptoms may escalate until an inevitable crisis point is reached.

Abbreviations: BPSD, behavioural and psychological symptoms of dementia; GPs, general practitioners.

rather than quality of life. Similarly, the systematic review on prescribing influences in nursing home residents found that inadequate knowledge of the risks and benefits of antipsychotic prescribing in dementia enabled inappropriate prescribing.[65] However, the benefit of antipsychotics in BPSD is minimal[26] and many of the side effects, such as extrapyramidal symptoms and sedation, occur in the short term. General practitioners' concern that discontinuation of antipsychotics will lead to a re-emergence of BPSD is also challenged by current evidence that suggests that for most people with Alzheimer's type dementia, antipsychotic discontinuation has no detrimental effect on cognition or functional status.[66]

The care provided to the person with BPSD in the community hinged on the positive involvement of family care-givers. A recent mixed-methods systematic review of the challenges BPSD creates for carers highlighted the importance of acknowledging the unmet psychological needs of carers.[67] The reliance on family caregivers, in the context of inadequate community resources to support them, creates a burden of care that is likely to further impact on carers' unmet psychological needs. Discussions on non-pharmacological strategies to manage BPSD often focus on a nursing home setting. However, BPSD is not limited to nursing home settings. Recent research has found that family carers observed significant levels of agitated behaviour, behaviour that they felt unprepared for as they were unaware that agitation could occur as part of dementia.[68] Carers value a proactive approach to dementia care from GPs.[69] Therefore, a more proactive initial discussion with family care-givers on BPSD, combined with regular screening questions as part of dementia reviews in general practice, could help to address how unprepared carers feel when faced with managing BPSD at home.

7.2 | Implications

Our review highlights the complexity of managing BPSD and how, in the face of this complexity, the care provided to people with dementia is often reactive. This raises the question; what does proactive care look like and how can this be delivered by GPs? Particularly in the context of the challenges posed by resource limitations, low self-efficacy and uncertainty regarding roles and responsibilities. We acknowledge that in clinical practice, pro-active management of BPSD can be complicated. Firstly, a prerequisite of any open, honest discussion on BPSD is that the person's dementia has been diagnosed and fully disclosed. However, we know that the diagnostic rates of dementia, although improving,[70] are low.[71] Furthermore, although the majority of people with dementia wish to know the diagnosis,[72] GPs can be reluctant to fully disclose it.[12,73,74] Secondly, GPs may be reluctant to initiate a conversation about BPSD unless they feel comfortable giving practical advice to family caregivers on managing BPSD, something many GPs struggle with.[12,75,76] A final barrier to a successful pro-active conversation on BPSD can be an understandable unwillingness on the part of family-members, and sometimes the person with dementia, to confront the unpleasant realities of cognitive decline.

This review identifies a number of potential targets for interventions to improve the management of BPSD in general practice. There is a clear need for interventions that address GPs' reliance on psychotropic medications to manage BPSD and GPs' reluctance to discontinue these medications. Other relevant areas to address include the lack of resources in the nursing home setting, the lack of clarity regarding roles, and responsibilities of different health care professionals and the limited availability of community-based supports for family caregivers. The challenge is how to implement effective interventions in the context of resource limitations, pressure to prescribe medications, and a lack of clearly defined care pathways that interface appropriately with secondary care and allied health care professionals in the community. Existing interventions aimed at improving the management of dementia care in general practice have focused on educational initiatives.[61,63,64,77] However, we know that educational interventions alone have limited effect when attempting to change GP practice in dementia care.[63,64] To improve dementia care educational interventions in general practice should be combined with service innovations such as dementia case managers[64] and supported by resources like decision support software.[78]

From the findings of this review, inappropriate antipsychotic prescribing appears to be a relevant and worthwhile behaviour to target. However, in addition to any educational component, an intervention aimed at improving appropriate prescribing of antipsychotics in dementia needs to be supported by practical resources that enable GPs to implement best practice recommendations. A recent randomised controlled trial demonstrated the potential for biannual, structured, multi-disciplinary medication reviews to improve appropriate prescribing of psychotropic medications in nursing home patients with dementia.[79] Although psychotropic medication reviews may occur in nursing homes, if implemented they are often performed in an ad-hoc manner without adequate resources and usually without multi-disciplinary input.

Medication reviews can reduce inappropriate antipsychotic prescribing in dementia.[80] However, to effectively improve the quality of life of a person with dementia, strategies that aim to reduce antipsychotic prescribing, such as medication reviews, need to be combined with evidence-based non-pharmacological interventions.[81] A

systematic review of the effectiveness of interventions to reduce inappropriate prescribing of antipsychotic medications in people with dementia living in residential care settings identified that for long-term reduction in antipsychotic prescribing, interventions needed to address cultural issues and the poor availability of non-drug alternatives to antipsychotics.[82] It is clear that if an intervention is to achieve a long-term reduction in psychotropic prescribing in dementia, it must provide options for practical, implementable, non-resource intensive approaches to non-pharmacological strategies.

7.3 | Strengths and Limitations

One of the strengths of this review is the rigorous approach used. Each stage of the review process involved at least 2 authors working independently. The synthesis of qualitative and quantitative studies has led to a more substantive interpretation of the research phenomenon than is available from a single study; adding to, rather than totalising, the available literature. Syntheses of qualitative data have been criticised as being mechanistic. Indeed, there is the risk with meta-ethnography that the richness or integrity of the original work will be lost,[83] a concern that, by overly deconstructing the original qualitative work, the researcher attempts to "sum up a poem."[84] Efforts were made to retain the content and context of the original studies throughout the data extraction and analysis. Three members of the review team are practising GPs (A. J., T. F., and C. B.); however, the multidisciplinary nature of the review team, which included a pharmacist (K. W.), a public health researcher (J. B.), and a nurse (AC), helped to reduce the potential for professional biases.

The review did not include a search of the grey literature. Since our search of the electronic databases was extensive, we felt that the grey literature was unlikely to result in any additional insights. A number of the studies included in the review focused on a singular aspect of BPSD management: antipsychotic prescribing in a nursing home setting. Hence, issues relating to antipsychotics may be over-represented in this review. Although integrated reviews of qualitative and quantitative research is still a relatively novel approach, it has been used effectively in previous mixed method systematic reviews of similar research questions.[48,67] It has enabled the integration of the quantitative assessments of GPs' knowledge of and attitudes towards BPSD with a more qualitative understanding of GPs' experiences of BPSD, enhancing the review's utility and impact.

The focus of this review is on GPs who manage people with dementia living at home and who may also provide care to people with dementia in nursing homes. Other models of care, such as that in The Netherlands where specially trained elderly care physicians provide care to nursing home residents,[43] were excluded from this review. However, it was reassuring to find that many of the findings from studies conducted with physicians working in the Dutch model of nursing home care concurred with our review findings.[85-87]

To our knowledge, this is the first time the CERQual tool has been used to assess the confidence of findings of a mixed-methods systematic review of this kind. However, there are limitations to applying the CERQual tool in this instance. In particular, the inherent "thinness" of the data from the quantitative studies raised concerns when judging the adequacy of the data. Nonetheless, the novel application of the CERQual tool to our review findings does provide a useful indication of the confidence we have in the study findings.

8 | CONCLUSION

This review offers new insights into GPs' perspectives on the management of BPSD and highlights the limited research in this area. Most of the research on dementia care in general practice appears to have focused on diagnosis rather than the long-term management of the person with dementia. We need to explore the challenges of managing BPSD in general practice, not at the expense of research on diagnostic challenges, but at least with the same degree of depth. Targeted interventions that are supported by appropriate resourcing could make the provision of high-quality, personalised care to people with BPSD achievable in a primary care setting. This review will help to inform the design and development of interventions to support GPs managing BPSD, which should ultimately improve the quality of care delivered to people living with dementia.

ACKNOWLEDGEMENTS

This work was conducted as part of a larger research project—PREPARED (Primary Care Education, Pathways and Research of Dementia). PREPARED is supported by a 3-year grant (2015-2018) from Atlantic Philanthropies and the Health Service Executive, Ireland. T. Foley is the principle investigator on the PREPARED project. The lead author, A. A. Jennings, is in receipt of a PhD stipend from this grant. A. A. Jennings is also in receipt of a 3-year career research grant from the Irish College of General Practitioners (2017-2020). The funders played no role in the design, execution, analysis, or writing of the study.

CONFLICT OF INTEREST

None declared.

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SUPPORTING INFORMATION

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

How to cite this article: Jennings AA, Foley T, Walsh KA, Coffey A, Browne JP, Bradley CP. General practitioners' knowledge, attitudes, and experiences of managing behavioural and psychological symptoms of dementia: A mixed-methods systematic review. *Int J Geriatr Psychiatry*. 2018;33:1163–1176. https://doi.org/10.1002/gps.4918