Prevalence of information- and advice-seeking by patients for newly prescribed medicines and interventions to promote these behaviours: scoping reviews

J. Gangannagaripalli[1,2], P. Andrews[3], L. McIver[3], L. Williams[4], P. Eckler[5], Diane Dixon[6], [iD]
Margaret C. Watson[1,*], [iD]

[1]Strathclyde Institute of Pharmacy and Biomedical Sciences, Glasgow G4 0RE, United Kingdom
[2]NIHR Applied Research Collaboration Greater Manchester (NIHR ARC GM)/Healthy Ageing Research Group, School of Health Sciences, The University of Manchester, Manchester M13 9PL, United Kingdom
[3]Healthcare Improvement Scotland, United Kingdom
[4]Department of Psychological Sciences & Health, University of Strathclyde, Glasgow, United Kingdom
[5]Department of Journalism, Media and Communication, University of Strathclyde, Glasgow, United Kingdom
[6]School of Applied Sciences, Edinburgh Napier University, Edinburgh, United Kingdom

*Corresponding author. Health Services Research and Pharmacy Practice, Strathclyde Institute of Pharmacy and Biomedical Sciences, Glasgow G4 0RE, United Kingdom. E-mail: margaret.watson@strath.ac.uk

Abstract

Objectives To conduct scoping reviews to assess the prevalence of information- and advice-seeking by patients from pharmacy personnel for newly prescribed medicines, and interventions to promote these behaviours.

Methods Standard scoping review methods were used and reported using the PRISMA-ScR checklist. Searches were conducted of electronic databases: Medline (via Ovid), Embase (via Ovid), Cinahl (via EBSCO host), and PsycINFO. MeSH terms and keywords were used. The inclusion period was 2010–2024. Independent, duplicate screening, data extraction, and quality appraisal was undertaken. Quality assessment was undertaken using validated tools.

Key findings Two studies were identified: prevalence (*n* = 1) and intervention (*n* = 1). Information was most frequently sought for dosage information and drug side effects. The intervention study evaluated the feasibility and acceptability of a computer kiosk to provide counselling and medication-related advice. The methodological quality varied from low (prevalence *n* = 1) to moderate (*n* = 2).

Conclusions There is paucity of empirical data regarding the extent to which patients engage with information- and advice-seeking and the effectiveness of interventions to promote these behaviours. Knowledge about medicine increases the likelihood of medication adherence and intended health outcomes. This research has identified a knowledge gap in terms of the prevalence of information- and advice-seeking by patients for prescription medicines and the effectiveness of interventions to promote these behaviours. Effective strategies are needed to promote these behaviours to increase adherence and therapeutic benefit, and decrease waste and iatrogenic disease.

Introduction

Medicines are the most common healthcare intervention [1]. The World Health Organization emphasizes the need to 'empower patients, families and their carers to become actively involved and engaged in treatment or care decisions, ask questions, spot errors and effectively manage their medications' as part of the Global Patient Safety campaign, Medication Without Harm objective [2]. Community pharmacies are frequently visited healthcare facilities [3, 4] and provide the public with direct access to a healthcare professional, the pharmacist, and the wider pharmacy team [5, 6]. Despite this apparent ease of access to trained personnel who could provide medicine-related information and advice, e.g. dosage and storage instructions, potential side-effects and their management, the extent to which the public access this resource appears limited. For example, a recent population survey in Scotland [7] showed that only 5% of the sample always discussed their new prescription medicine with pharmacy staff, while 30% sometimes did and 29% of respondents never engaged in this behaviour. The majority of respondents [64.6% (95% CI 61.6%–67.5%), *n* = 646] in this study expected the pharmacist to tell them how to use the new prescription medicines correctly, while <50% of them to inform them about side-effects and allergies.

There has been limited empirical exploration of medicine-related information needs and preferences. A scoping review comprising 27 studies explored the use of information hotlines and online services and reported that the most common information requests related to adverse reactions and interactions [8]. Two studies explored patient preference for medicine information and recommended the use of user-friendly formats and content of guidance to support patient decision-making about their health [9, 10]. An additional

study reported that patients had relatively low expectations of information-provision by pharmacists [11].

The aims of the scoping reviews were to:

- Explore the prevalence of information- or advice-seeking behaviour by patients from community pharmacy personnel for newly prescribed medicines.
- Identify evidence of which interventions can be used to promote these behaviours.

Materials and methods

Two scoping reviews, one to assess each aim, were conducted and in accordance with the five-stage methodological framework by Arksey and O'Malley [12] and reported in compliance with the PRISMA-ScR checklist [13].

Eligibility criteria

Articles were selected according to population, exposure/ intervention, comparator, and outcomes (PE/ICO) criteria (Table 1). All studies that reported empirical data irrespective of study design were included. Publications were restricted to the English language. Articles of evaluations that were ongoing or for which no empirical data were presented were excluded.

Information sources and searches

The following databases were searched from 2010 to 2024: Medline (via Ovid), Embase (via Ovid), Cinahl (via EBSCO host), PsycINFO, Cochrane Central Register of Controlled Trials, and Cochrane Database of Systematic Reviews. Searches were conducted on 30 March 2021 for prevalence studies and 29 November 2021 for intervention studies, and subsequently updated on 17 November 2023 for prevalence studies and 28 January 2024 for intervention studies. Authors were contacted for full-text articles where necessary and to enquire about unpublished work. Search strategies for Medline are presented in Supplementary material Appendix 2. The search results were imported into Covidence software (https://www.covidence.org) to manage the data and generate the PRISMA Flowcharts.

The search strategies (Supplementary Information) were developed using PECO/PICO criteria and used combinations of MeSH terms and keywords/domains, e.g. 'pharmacy/ medicines service', 'information needs', 'drug', and 'patient'.

The strategies were developed for Medline initially and then adapted for subsequent databases. The reference lists of included studies were hand-searched for additional relevant studies.

Study selection

Duplicate independent screening of the titles and abstracts was undertaken by two reviewers (J.G., P.A.). Consistency in applying the eligibility criteria between the reviewers was piloted with 10% of all the articles retrieved. Duplicate, independent review was undertaken of full-text versions. A sample of 10% of the full texts was compared to assess consistency between reviewers. Discrepancies were resolved by discussion and involvement of a third reviewer (M.W.).

Data charting process

Two standardized data extraction (charting) forms were used; one for prevalence studies and the other for intervention studies. Independent, duplicate data extraction was undertaken for all the included studies by the two reviewers (J.G., P.A.), and there were no discrepancies.

Quality assessment

The quality of the included studies was assessed independently by two reviewers (J.G., P.A.). The Critical Appraisal Skills Programme tool [14] was used for prevalence studies and the Joanna Briggs Institute critical appraisal tool was used for intervention studies [15]. Study quality was rated 'low' if ≤50% of the criteria were met, 'medium' if >50% and <75% of criteria were met, and high if >75% were met.

Results

The search for prevalence and interventions studies generated 3547 and 14 633 results, respectively, from which two studies were included (prevalence $n = 1$, intervention $n = 1$) (Figures 1 and 2).

Description of included studies

Prevalence of information- and advice-seeking

One study explored the prevalence of information- and advice-seeking [16] and was conducted in the Netherlands and used observational method of adult participants aged >18 years. Data were collected using video-consultations and/or questionnaires. This study was conducted in four pharmacies

Table 1. PE/ICO screening criteria.

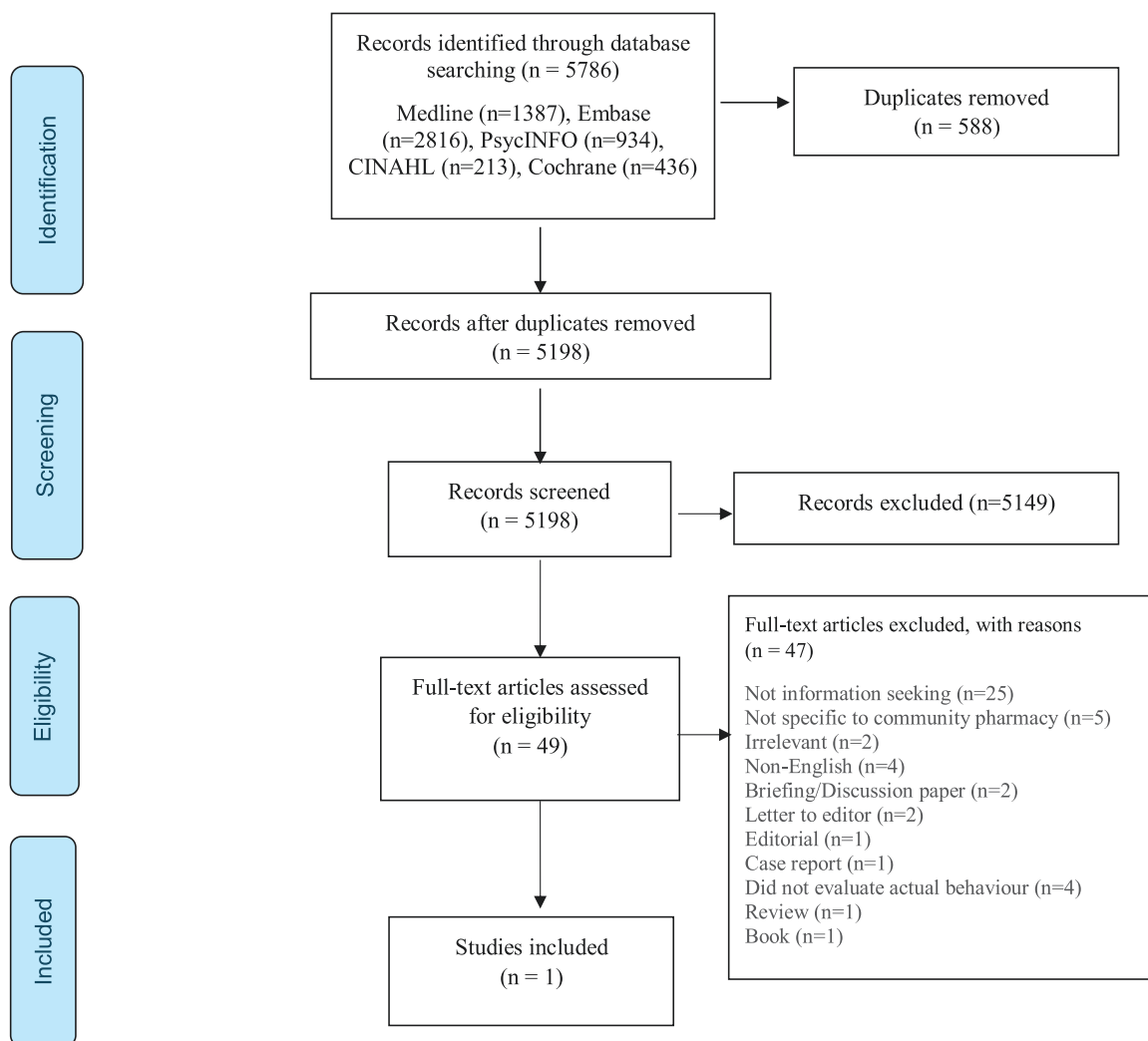| Objective 1 **Prevalence of information- and advice-seeking about prescription medicines.**	Objective 2 **Interventions to promote information- or advice-seeking behaviour by patients from pharmacy personnel in community pharmacies.**
Population: Age group: adults aged ≥6 years Patients: patients using community pharmacy services Professionals: community pharmacy personnel (pharmacists or pharmacy support staff)	
Exposure: information- and advice-seeking by patients presenting/ collecting prescriptions in a community pharmacy setting	**Intervention:** Interventions to promote information- or advice-seeking behaviour by patients from pharmacy personnel in community pharmacies.
Comparator: not applicable	
Outcome(s): information- or advice-seeking behaviour	

Figure 1. PRISMA flowchart for prevalence studies.

in the North-West region and included 153 encounters with a median encounter duration of 132 seconds (interquartile range 63.5–236.0) [17]. The most frequent information provided to patients in this study was related to dosage information and the proportion of interactions involving dosing information; 6% (2/35) [16] of consultations/interactions involving this behaviour, and information- or advice-seeking regarding medicine formulation was reported in 3% (1/35) of consultations [16].

Interventions to promote information-seeking behaviour of prescription medicines by patients

One study assessed the feasibility of an intervention to promote information-seeking and was conducted in the USA [18]. The study was conducted in one community pharmacy and evaluated the instillation of a computer kiosk with interactive software that was programmed to guide viewers to the National Library of Medicine's (NLM) MedlinePlus website. Pharmacy students offered to guide patients through the website. The kiosk software then prompted each patient through survey questions and onwards to the NLM website. The software was used to provide counselling and medication-related advice to patients. In total, 198 participants were included in the study, the majority of whom were female and aged

between 46 and 65 years. The study was conducted over a 4-week period, from 23 October to 19 November 2009. The kiosk and the website were viewed favourably by patients who indicated their use of the kiosk to be feasible and acceptable.

Quality assessment of the included studies

For the prevalence objective, the other study achieved a medium quality score (7/12) [16]. For the intervention objective, the study included achieved a low quality score (4/8) [17]. Methodological limitations were found in both studies. These included potential selection bias (16) and inclusion criteria (17). Furthermore, generalisability was limited in all the studies due to small sample size (16–17).

Discussion

Despite the importance of health literacy and the growing emphasis on empowering patients to have greater involvement in their health care [18, 19] in general and medicines management [20] specifically, these scoping reviews highlighted a general lack of empirical research to measure and promote these behaviours.

These reviews identified a considerable knowledge gap indicating the need to develop and evaluate interventions to
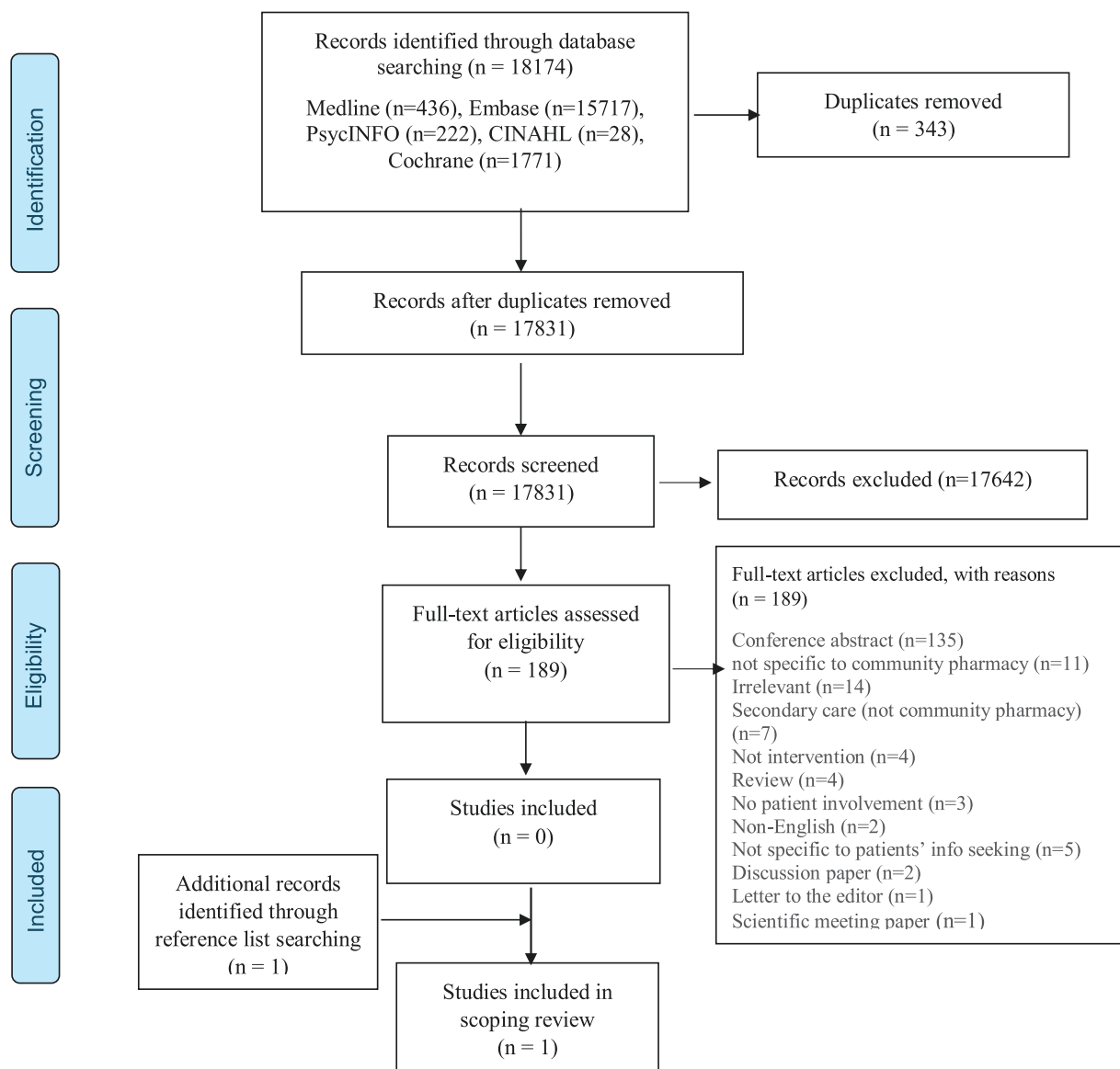
Figure 2. PRISMA Flowchart for intervention studies.

promote these behaviours. The association between higher levels of medication literacy and better compliance is well recognized. Studies consistently demonstrate that patients with higher medication knowledge have better medication adherence [21, 22]. Conversely, lack of patient knowledge about benefits of continuous medication use have been associated with non-adherence [23]. The consequence of lower medication adherence due to an inability to read standard prescription and auxiliary labels was an increased number of cardiovascular-related emergency department visits [24].

Medicine-related information and/or advice is associated with improved adherence and outcomes as a result of improved communication in general [25] and more specifically knowledge about a medicine's indication for use [26]. Interventions to promote patient activation have been suggested as one method of improving medication adherence [27].

Strengths and limitations

We conducted and reported our reviews following the PRISMA-ScR checklist. We included multiple databases and contacted the authors and experts. Duplicate, independent screening of the title/abstracts, full-texts, and data abstraction of the studies enhanced the quality of the review. The 'a priori protocol' of the review was not published and searches were not conducted of the grey literature. Due to resource constraints, the reviews were restricted to publications in the English language.

Conclusion

There has been limited exploration of the prevalence of patient and advice-seeking behaviour from community pharmacy personnel and minimal empirical evaluation of interventions to encourage these behaviours. Interventions are needed to promote/enable/empower patients to proactively seek information and advice about their medicines, and in so doing, this could contribute to improved adherence, enhanced health outcomes, and reduced drug waste and possible reductions in iatrogenic disease.

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Supplementary data

Author contributions

J.G.: study conduct, analysis and interpretation of data; drafting the original manuscript; final approval of manuscript; agreement to be accountable for all aspects of the work. P.A.: study conduct, analysis and interpretation of data; revising the manuscript; final approval of manuscript; agreement to be accountable for all aspects of the work. L.M.: conception and design of study; revising the manuscript for important intellectual content; final approval of manuscript; agreement to be accountable for all aspects of the work. L.W.: analysis and interpretation of data; revising the manuscript for important intellectual content; final approval of manuscript; agreement to be accountable for all aspects of the work. P.E.: analysis and interpretation of data; revising the manuscript for important intellectual content; final approval of manuscript; agreement to be accountable for all aspects of the work. D.D.: analysis and interpretation of data; revising the manuscript for important intellectual content; final approval of manuscript; agreement to be accountable for all aspects of the work. M.W.: conception and design of study; analysis and interpretation of data; revising the manuscript for important intellectual content; final approval of manuscript; agreement to be accountable for all aspects of the work.

Conflict of interest statement

Funding

Ethical approval

Not applicable. This manuscript reports scoping reviews and therefore this research did not require ethical approval.

Data Access Statement

All the authors had complete access to the study data, including search strategies, searches, and data extraction.

Data availability

The search strategy and data underlying the search are available upon request from the corresponding author.

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